

GUIDE
To
**POSTS & TELEGRAPHS
CLERKS EXAMINATIONS**
QUESTIONS AND ANSWERS
WITH TEST PAPERS

by
H. C. BANJAH
FOR COMPETITIVE EXAMINATIONS
Held by the Post Master Generals of Punjab, C. P.,
U. P., Assam, Madras, & Various other Provinces
for Recruitment of Clerks in
Posts & Telegraphs Offices.

Careers Today

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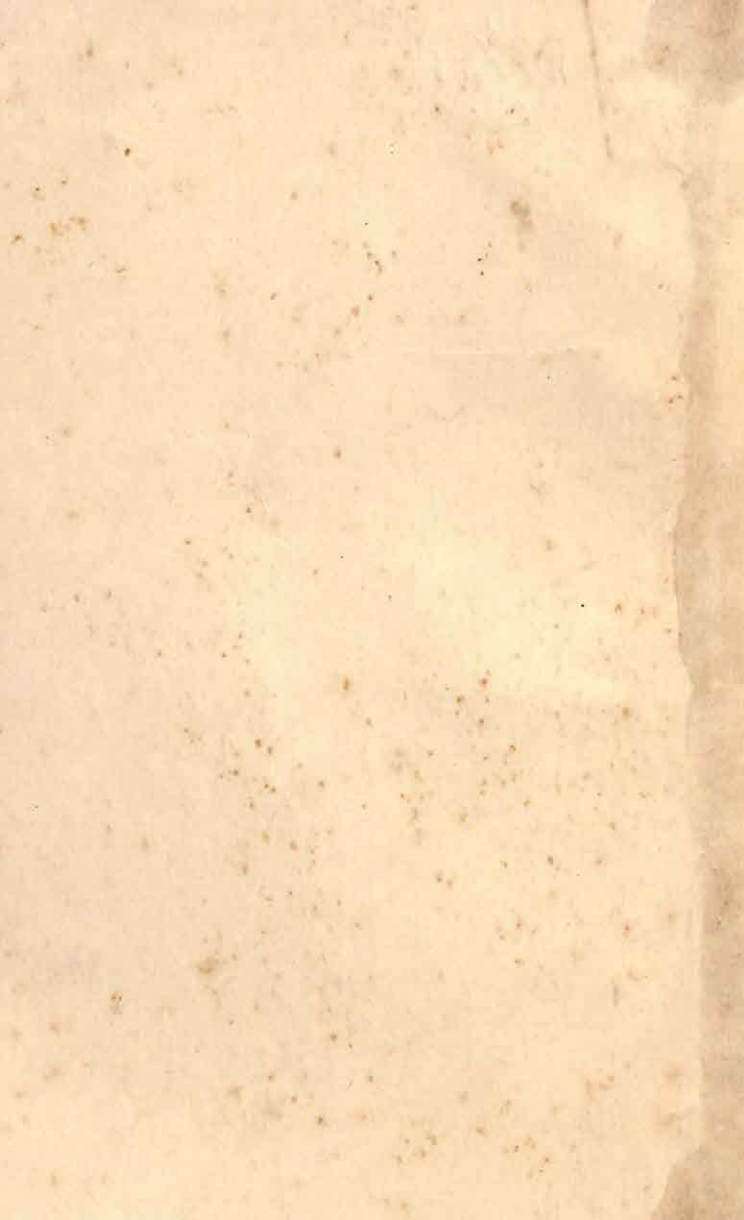


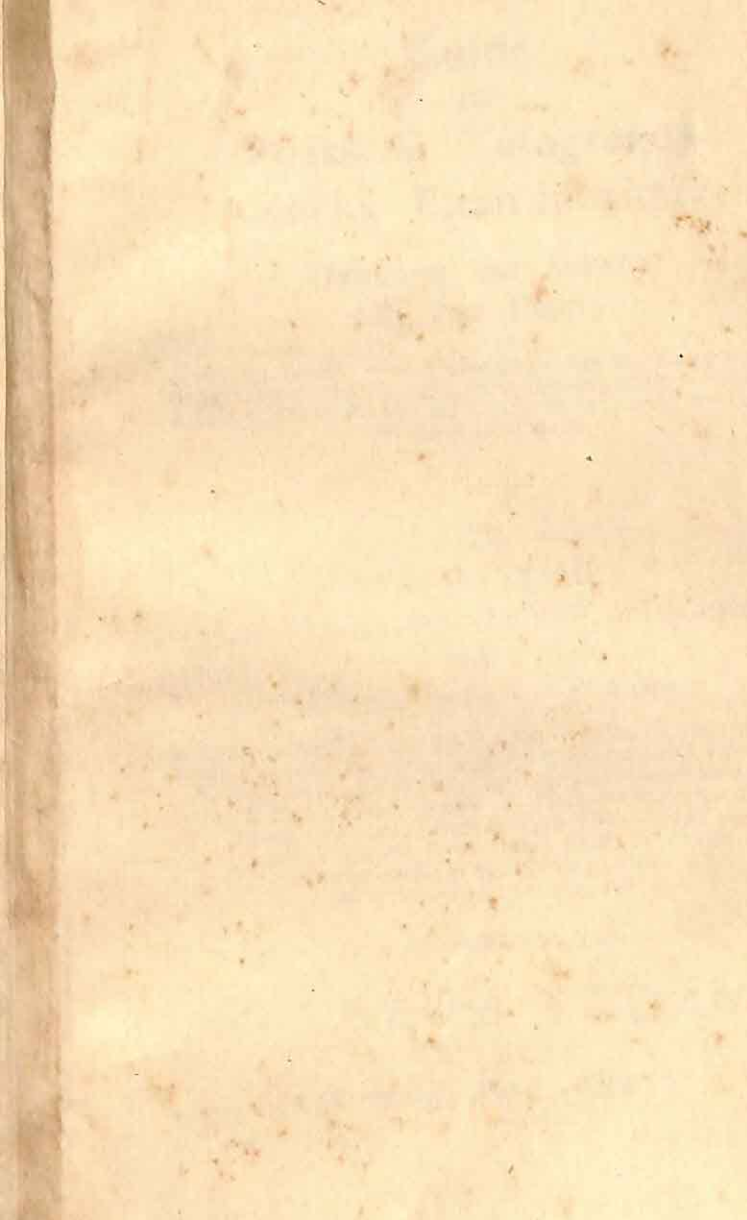
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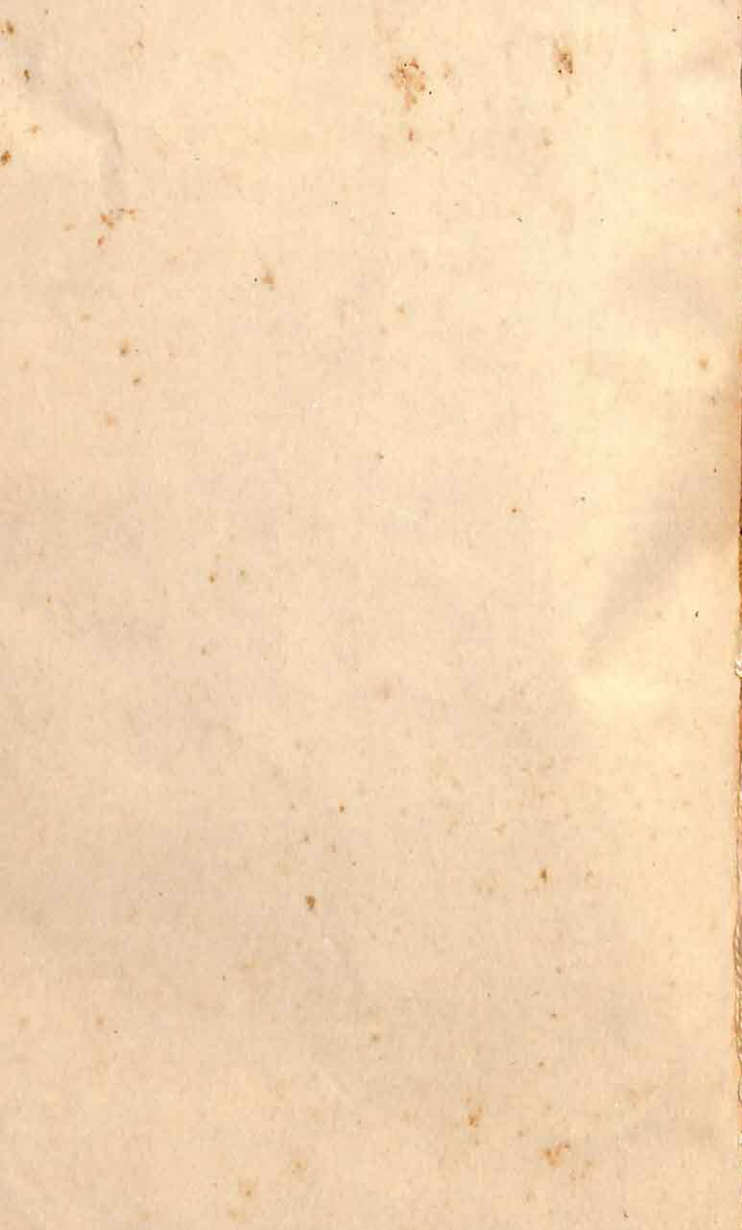
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Guide TO Posts & Telegraphs Clerks Examinations

Questions and Answers
with Test Papers

A Helpful Guide to Ambitious Examinees for Competitive Examinations held by Postmaster Generals of East Punjab, Assam, C. P., U. P., Madras, etc., to recruit Clerks for Posts and Telegraph Offices

By

H. C. BANJAH

Editor : "Careers Today" (Monthly)

AND

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Author of Manual of Indian Administrative & Allied Services ; Shorthand Teacher, General Knowledge in Questions and Answers, Guide to Professional Studies in India, Guide to Professional Studies in the United Kingdom, Guide to Professional Studies in America, Manual of Joint Services Wing, Manual of Military and Air Force Wing, Guide to Proof Correcting, Guide to Indian Navy, Guide to Dufferin Examinations, etc., etc.

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English and General Knowledge

1938

Q. 1. What do the following abbreviations stand for :—

- (1) V. C., (2) Y. M. C. A., (3) D. P. I., (4) V. P. P.,
(5) T. M. O., (6) R. S. V. P.

Q. 2. State briefly what do you know of the following :—

- (a) Garibaldi ; (b) Mussolini ; (c) Shivaji ; (d) Asoka.

Q. 3. What do you know about the following :—

- (a) White Hall ; (b) The Vatican ; (c) India House ;
(d) The Louvre.

Q. 4. When used figuratively what do the following mean ;—

- (a) A bolt from the blue ; (b) A dog in the manger policy
(c) A silver lining ; (d) A mailed fist.

Q. 5. In each of the following give the correct spelling of the one mis-spelt :—

- (1) Conglomerate ; (2) Agregate ; (3) Alternate (4) All-together ; (5) Disappoint ; (6) Antimony ; (7) Telephony.

Q. 6. In each of the following groups (A,B,C,D,E) there is one sentence better than any other in the group. Say which of these it is ?

- A.** I have come for seeing you.
I have come for interview with you.
I have come to see you.
- B.** I am typically best student in my class.
I have always been first in my class.
I am too good student,
- C.** I request an early reply to my query.
I request early reply to my query.
An early answer may be kindly returned to my query.
- D.** A reply to my No. D, dated 2nd November, 1938
may be kindly expedited.

I should appreciate an early answer to my No. D, dated 2nd November, 1938.

Please reply at once to my No. D, dated 2nd November 1938.

E. He ought to have not come.

He ought not to have come.

He ought to not have come.

Q. 7. Rewrite the following omitting all passive voices :—

A Bill which has been passed by the Provincial Legislative Assembly or, in the case of a Province having a legislative Council, has been passed by both Chambers of the Provincial Legislature, shall be presented to the Governor, and the Governor in his discretion shall declare either that he assents in His Majesty's name to the Bill, that he withholds assent therefrom, or that he reserves the Bill for consideration of the Governor-General.

Q. 8. Write a letter to your elder brother describing to him your railway journey to the examination centre.

Q. 9. Write sentences in which the following are
(a) Common (b) Proper Nouns :—
Father, town, cook, baby.

Q. 10. Turn the following passage into indirect speech :—
“My dear” said Mr. Kenwigs, “wouldn't it be better to begin a round game ?”

“Kenwigs, my dear” returned his wife, “I am surprised at you. Would you begin without my uncle ?”

“I forgot the Collector” said Kenwigs,

“Oh ! No, that would never do.”

“He's so particular,” said Mrs. Kenwigs turning to the other married lady, “that if we began without him, I should be out of his will for ever.”

“Dear !” cried the married lady.

“You've no idea what he is” replied Mrs. Kenwigs, “and yet as good a creature as ever breathed.”

“The kindest hearted man as ever was”, said Kenwigs.

ANSWERS

English & General Knowledge

1938

1. (1) Victoria Cross, (2) Young Men's Christian Association, (3) Director of Public Instructions. (4) Value Payable Parcel (5) Telegram Money Order ; (6) *repondez s'il vous plait* (a French Word) meaning "Reply, if you please.

2. (a) An Italian, famous for liberation of Italy, Leader of Red Shirts. Died in 1882.

(b) An Italian Dictator. Founder of the Fascist movement in Italy. Became Prime Minister of Italy, in 1922 and soon became a dictator. Joined World War II as an Axis Power and after defeat in 1943, he was compelled to resign and was shot dead in an attempt to escape from Italy.

(c) The Maharatta chief who challenged the Mughal Emperor Aurangzeb and established Hindu Raj in the Deccan.

(d) A great Hindu Emperor of India. Follower of Buddhism and got erected many edicts for the spread of that religion.

3. (a) **White Hall**.—A street in London in which the chief Government Offices are situated. It runs from Charing Cross to Parliament Street.

(b) **The Vatican**.—The official residence of the Pope and the headquarters of Roman Catholicism. It is the greatest palace in the world in size.

(c) **India House**.—Office of the Indian High Commissioner in London.

(d) **The Louvre**.—A picture gallery in France.

4. (a) A sudden and unexpected disaster. The news of his father's death in an air-crash came to him as a bolt from the blue.

(b) It is said of a person who prevents other from enjoying something which is of no use to him. Ram prevented us from playing: for he having hurt, could not play. He is like a dog in the manger policy.

(c) A ray of hope in a disappointing state of affairs. The meeting of the two Prime Ministers of India and Pakistan is a silver lining in the dark horizon of Indo-Pak relations.

(d) A physical force. The robber presented a mailed fist to the traveller and stripped him of his belongings.

5. (1) Correct ; (2) Aggregate ; (3) Correct ; (4) Altogether (5) disappoint ; (6) Antimony (7) telephony.

6. A. I have come to see you.

B. I have always been first in my class.

C. I request an early reply to my query.

D. A reply to my No. D dated 2nd November, 1948, may kindly be expedited.

E. He ought not to have come.

7. A Provincial Legislative Assembly, or, in the case of a province having a Legislative Council, having passed a Bill, present it to the Governor, and the Governor, in his discretion shall declare either that he assents in His Majesty's name to the Bill, or that he withholds assent therefrom, or that he reserves the Bill for consideration of the Governor-General.

8.

15, Model Town,

Lahore,

1st March, 1938.

My dear Brother,

I reached Lahore yesterday evening and I hasten to write to you about the comfortable journey I had from Raiwind to Lahore. Soon the train whistled off, I saw that a good number of boys were also sitting in it. On talking with them, I was very much happy to learn that they were also going to take their examination. We talked about our preparations made for the examination and everyone was hopeful of one's success. A keen desire was felt by everyone to know something of each other and were happy to be acquainted with one another. At other stations also some examinees stepped in our compartment and thus the journey ended in a comfortable and happy atmosphere. At last the train reached Lahore station and we left to our respective destinations.

I will now be having my Geography Examination to-day at 10 a.m. and will write you the result.

With my respects, I am,

Yours affectionately,

A.

Mr. X,

Mohalla Rampura,

Raiwind.

9. *Father* : (a) The duty of a father is to see his children well established in their cradles. (b) Father John was a great philosopher.

Town : (a) We have a good police arrangement in our town ; (b) Town London has the largest population in the world.

Cook : (a) A cook will cost you about Rs. 30 a month ; (b) Mr. Cook has passed his Matriculation examination.

Baby : (a) The baby is playing with a ball. (b) Baby Austin is a nice car.

10. Mr. Kenwigs addressing his wife affectionately asked her to begin a round game. Mrs. Kenwigs in reply expressed surprise and asked her husband if he would begin without her uncle.

Mr. Kenwigs replied that he forgot the Collector, her uncle, and emphatically declared that there would be no game without her uncle.

Mrs. Kenwigs addressing the other married lady said that her uncle was so particular that if they had begun without him she would be out of his will for ever.

The married lady expressed great surprise. Mrs. Kenwigs told the lady that she had no idea what her uncle was and yet he was as good a creature as ever breathed.

Mr. Kenwigs added that he was the kindest hearted man as ever was.

English and General Knowledge

1939

Time : 3 hours

Marks : 150

1. What do you know of the following :—
 - (a) The Nazi ; (b) The Maginot Line ; (c) Anti-Comintern Pact ; (d) Wardha Scheme.
2. Who wrote the following :—
 - (a) Gitanjali ; (b) Robinson Crusoe ; (c) The Prisoner of Zenda ; (d) Lamb Tales from Shakespeare.
3. Who are the following :—
 - (a) M. Daladier ; (b) General Smuts ; (c) Himmler ; (d) Mustafa Kamal Pasha.
4. Write out in full the words for which the following abbreviations stand for :—
 - (a) O.H.M.S. ; (b) D.L.O. ; (c) P.M.G. ; (d) A.R.P. ; (e) B.B.C. ; (f) S.P.C.A.
5.
 - a) Give the Arabic numerals for the following :
LX ; MCMXXXIX ; DCC ; XLI ; DCLI.
 - (b) Give Roman symbols for the following numbers :
797 ; 2357 ; 1655 ; 1707.
6. Give the meaning of the following idioms and use them in sentences :—
 - (a) An eye-wash ; (b) A fig ; (c) A thorn in the flesh ; (d) The under-dog ; (e) A bird of passage.
7. Add suitable word or words in the following, so that it may make complete sense :—
 - (a) A drowning man.....
 - (b) This man is blind...one eye.
 - (c) Without his glasses he is...as a bat.
 - (d) His remarks against Communism brought a.....about his ears.
 - (e) When he signed the agreement he did not know that he was.....throat.
8. Write a paragraph on any one of the following :—
 - (a) The Postman ; (b) An Indian Bazar ; (c) A Railway Accident.

9. Make correction of idiom and grammar in the following sentences :—

- (a) I am not sure if he will succeed.
- (b) I doubt that he will succeed.
- (c) Until you have had companion you will not do well.
- (d) When you say so I must take your word for it.
- (e) He is addicted to drink.
- (f) No sooner he entered the room there was a great uproar.

10. Use one word for the italicised phrases in the following sentences :—

- (a) His motive was purely *to get some money*.
- (b) He was *born after the death of his father*.
- (c) Mohan is *very easily made angry*.
- (d) The sound of my watch is so low that *it cannot be heard*.
- (e) His handwriting is such that *it cannot be easily read*.
- (f) His argument was perfectly *beyond answer*.

ANSWERS

English and General Knowledge

1939

1. (a) *The Nazi*.—The National Socialist Party of Germany with Herr Hitler as the 'Leader'.

(b) *The Maginot Line*.—A system of elaborate underground fortification from the Swiss frontier to Malmedy off the east of France, built 1927—35, under the instructions of Maginot, the then French Minister.

(c) *Commintern Pact*.—A pact signed by Japan and certain countries of Central Europe to check the spread of communism.

(d) *Wardha Scheme*.—A scheme put forth by Mahatma Gandhi. It aimed at giving free primary education to children of India. The salient feature of the scheme was that the boy earns while he learns.

2. (a) Dr. Rabindranath Tagore ; (b) Daniel Defoe ;
(c) Anthony Hope ; (d) Charles and Marry Lamb.

3. (a) *M. Daladier*.—Ex-Premier of France, who succeeded M. Leon Blum in 1938.

(b) *General Smuts*.—Became Prime Minister of the Union of South Africa in 1939 on the resignation of General Hertzog on neutrality issue. Lost to Dr. Malan in 1949.

(c) *Himmler*.—Chief of the German Secret State Police (Gestapo) since its inception. Nominated Commander-in-chief of the Home Army.

(d) *Mustafa Kamal Pasha*.—Joined the army and was imprisoned as an opponent of the Sultan Abdul Hamid ; opposed entry of Turkey in War, but served with bravery at the Dardanelles ; elected President of the Newly founded Republic. Died in 1939.

4. (a) On His Majesty's Service ; (b) Dead Letter Office ; (c) Post Master General ; (d) Air Raid Precautions ; (e) British Broadcasting Corporation ; (f) Society for the Prevention of Cruelty to Animals.

5. (a) 40 ; 1939 ; 700 ; 41 ; 651.

(b) DCCXCVII ; MMCCCLVII ; CLXV ; MDCCVII.

6. (a) *It means outwardly sympathy*.—His promise to help Sham was nothing but an eye-wash ; in fact he did not want to help him.

(b) *A fig : little*.—Nowadays pupils care a fig for what their teachers say.

(c) *A cause of continuous trouble*.—The question of division of hereditary property was a thorn in two brothers' flesh, as the elder wanted the lion's share.

(d) *A person at a disadvantage*.—Industrialists get all the luxuries at the cost of the under-dog, their employees.

(e) *A man who never settles at one place permanently*.—A man who is a bird of passage can have no value in the eyes of their neighbours.

7. (a) A drowning man catches at a straw.

(b) This man is blind of one eye.

(c) Without his glasses he is as blind as a bat.

(d) His remarks against communism brought a Hornet's nest around his ears.

(e) When he signed the agreement, he did not know that he was cutting his throat.

8. An Indian Bazar.

In every village, town or city of India, one will find a row of shops on either side of the way or road, selling different type of articles of daily use. This is called a Bazar. The size of Bazar differs according to the size of village, town or city.

There are more villages and towns in India than cities. So let us know something about a village or town bazar. The bazars are generally situated in the centre of a village so that it is accessible to everybody in the village. They store such articles as are daily used in villages. At one shop you can buy everything of domestic consumption, say, soap, spices, cloth, grains, etc., etc. The shops are not arranged in any definite order. They are all mixed up. Some are open, pucca and some are dark and dingy. Some again are even two-storeyed.

Passing through a bazar, we see a fruit-seller carrying small baskets of fruits, selling at the hoarse of his voice. Leaving him, we see a shop of a confectioner, a drapper, a tailor, cobbler, etc., etc. They seem busy selling their articles to the anxious buyers.

Bazar is indeed a very busy and interesting place. There is hustle and bustle all round specially in the evenings. People come in hurry and buy their things of requirements and go home hurriedly before sun set. In the evening some shops are closed and some shopkeepers light their lamps and remain in the Bazar upto 8 p.m. or so.

9. (a) I am not sure *that* he will succeed.

(b) I doubt *if* he will succeed.

(c) *So long* as you have had companions you will not do well.

(d) *Since* you say so I must take your word for it.

(e) He is addicted to *drinking*.

(f) No sooner did he enter the room *than* there was great uproar.

10. (a) His motive was purely monetary.
 (b) He is a posthumous child.
 (c) Mohan is very peevish.
 (d) The sound of my watch is inaudible.
 (e) His handwriting is illegible.
 (f) His argument is irrefutable.

English & General Knowledge

1941

- What do you know of any *five* of the following :—
 (a) Franco ; (b) Quisling ; (c) De Gaulle ; (d) Ernest Bevin ; (e) Tulsi Das ; (f) Ram Mohan Roy.
- The following are sentences in Code. Decode them :—
 (a) 7, 15, , 15, 13, 5, 5, 20, 15, 19, 5, 5, 25, 15, 21, 18, 6, 1, 20, 8, 51, 8.
 (Hint. Each number represents a letter of alphabet).
 (b) RYSTZ in frum ZLXU^h UL
 (Hint. Replace the last three letters of the alphabet with the first but in reverse order and the last vowel takes the place of the last but one).
- Explain the following terms :—
 (a) Fish plate ; (b) Lebensraum ; (c) Constituent Assembly
 (d) Totalitarian State ; (e) Crossed cheque ; (f) Camouflage.
- Who are the following :—
 (a) Governor of U. P. ; (b) President, National Liberal Federation ; (c) Prime Minister of United Kingdom ;
 (d) Prime Minister of France ; (e) President of America ; (f) Governor of N. W. F. P.
- Which sentences out of the following are more idiomatic :
 (a) I like that you come and see me.
 I should like you to come and see me.
 I want that you come and see me.
 I want you to come and see me.

- (b) The male members of my family did not agree to this.
 The men in my family did not agree to this.
 His family members are not here.
 The members of his family are not here.
- (c) This water is good for drinking.
 This water is good to drink.
- (d) I spoke to her to go away
 I told her to go away.
- (e) He gave me five rupees note.
 He gave me a five-rupee note.
- (f) I am too pleased to see you.
 I am much pleased to see you.

6. Turn the following into indirect speech :—

“Cast thy eyes eastward,” said the Genius to Mirza, “and tell me what thou seest.”

“I see,” said Mirza, “a huge valley and a prodigious tide of water flowing through it.”

“The valley that thou seest,” said the Genius, “is the vale of misery and the tide of water that thou seest is part of the great tide of eternity.”

“What is the reason ?” said Mirza, “that the tide that I see rises out of a thick mist at one end and loses itself in a thick mist at the other.”

7. Give the meaning of the following phrases and use them in sentences :—

(a) To take anything to heart ; (b) The last straw ; (c) To cast pearls before swine ; (d) To spread like wild fire ; (e) A black sheep ; (f) A bolt from the blue.

8. Write a letter to your headmaster requesting him to give you a written character certificate.

9. Correct the following sentences where necessary :—

- (a) He turned himself a traitor to the crown.
 (b) He acquitted well in the battle.
 (c) This my shirt is new.
 (d) You would better stop and do some work.
 (e) He requests you to favour him with a testimonial.

10. Punctuate the following passage and use capitals where necessary :—

As caesar loved me i weep for him as he was unfortunate i rejoice at it as he was valiant i honour him but as he was ambitious I slew him there is tears for his love joy for his fortune honour for his valour and death for his ambition who is here so base that would be a bondsman if any speak for him have I offended who is here so rude that would not be a roman if any speak for him have I offended who is here so vile that will not love his country.

ANSWERS

English & General Knowledge

1941.

1. (a) *Franco* : Spanish General and Dictator. Led the Spanish Civil War. Defended the Republics and became the master of the whole country. Joined the Anti-Comintern Pact in May, 1939.

(b) *Quisling* : V. A. L. Quisling ; A Norweigan Politician connected with German intrigues to seize Norway. Appointed head of the German sponsored Govt. but had to resign for want of popular support. His name has now become a by word for treachery. Sentenced to death in 1946.

(c) *De Gaulle* : Leader of the Free France. After the surrender of Petain Govt. championed the cause of Free France. Opposed the surrender of France to Germany.

(d) *Ernest Bevin* : Labour Leader. Member of the Parliament of the U. K. Foreign Secretary 1945-51.

(e) *Tulsi Dass* : A great Hindi poet who translated Ramayana in Hindi.

(j) *Ram Mohan Roy* : A great Indian Religious reformer. Born in Bengal in 1774. He disliked idolatry and founded Brahmo Samaj in 1830. Died in 1883.

2. (a) Go home to see your father ; (b) Abstain from alcohol.

3. (a) *Fish plate* : An iron plate fitted to the web of a rail used in pairs, one on each side of the junction of two pieces of rails.

(b) *Lebensraum* : A German word meaning "Living space" was a new slogan of Hitler's Government in Germany.

(c) *Constituent Assembly* : An assembly which frames or alters the political constitution of a country.

(d) *Totalitarian State* : A state where single party or dictatorial system of Government based on "totality of state" extends state influence over public and private life and exacts submission to state demands.

(e) *Crossed cheque* : A cheque with two parallel lines drawn across its face and word "& Co." written in between the two lines. Such cheque can only be realised through a bank and the proceeds thereof deposited in the payee's account.

(f) *Camouflage* : Device for deceiving or misleading one's enemy.

4. (a) Sir Maurice Hallet ; (b) Dr. R. P. Pranjipte ; (c) Mr. Winston Churchill ; (d) M. Daladier ; (e) Franklin D. Roosevelt ; (f) Sir George Cunningham.

5. (a) I should like you to come and see me.

I want you to come and see me.

(b) The men in my family did not agree to this.
The members of his family are not here.

(c) This water is good to drink.

(d) I told her to go away.

(e) He gave me a five-rupee note.

(f) I am much pleased to see you.

6. Genius asked Mirza to cast his eyes eastward and tell him what he saw.

Mirza replied that he saw a huge valley and a prodigious tide of water flowing through it.

The Genius told him that the valley that he saw was the vale of misery and the tide of water that he saw was part of the great tide of eternity.

Mirza asked him to tell him the reason why the tide that he saw rising out of a thick mist at one end losing itself in a thick mist at the other.

7. (a) To feel too much. Nowadays students take their failure in examinations to their hearts and flee away from their homes.

(b) The last hope : The man, having lost his last straw drowned in the river.

(c) To do something good for a man who will never appreciate the work. To help him is to cast pearls before a swine.

(d) To spread quickly. The news of the outburst of an atom bomb in Russia spread like a wild fire in the world.

(e) A person with a bad reputation in a company for not conforming to its principles. The black sheep among the strikers were roughly handled by their fellows.

(f) A sudden disaster. The news of his mother's death came upon him as a bolt from the blue.

8.

20, Ridge Road
Simla,
15th June, 1940.

The Headmaster
Government High School
Simla.

Sir,

Most humbly and respectfully I beg to say that I was a student of X class in your school and passed my Matriculation examination this year securing 650 marks and stood second in the class in order of merit. I was a good player and member of the Hockey Team. The name of my father is L. Ram Chander. I am writing this to request you to kindly grant me a Character certificate which I need for production before the Postmaster General for securing a clerical appointment in the Postal Deptt., to join which I am taking examination next month. I hope you will very kindly favour me with the certificate at an early date.

Thanking you and apologizing for the trouble so given to you, I am,

Yours obediently,

ABC

9. (a) He turned a traitor to the crown ; (b) He acquitted himself well in the battle ; (c) This is my new shirt ; (d) You

better stop talking and do some work ; (e) He requests you to favour him with a testimonial,

10. As Caesar loved me, I weep for him ; as he was unfortunate, I rejoice at it ; as he was valiant, I honour him ; but, as he was ambitious, I slew him. There are tears for his love : joy for his fortune ; honour for his valour ; and death for his ambition. Who is here so base that would be a bondsman ? If any, speak, for him have I offended. What is here so rude that would not be a Roman ? If any, speak, for him have I offended. Who is here so vile that will not love his country ?

English Composition

1950

Time allowed—1½ hours.

Maximum Marks—50

1. Write an essay on *one* of the following :—

- (a) The Importance of games.
- (b) Effects of the Partition of India.
- (c) Life-sketch of a great Indian patriot.
- (d) Why world peace is desirable.
- (e) Importance of forest in the economic life of a country.
- (f) Religious tolerance. 25

2. Attempt *one* of the following :—

- (a) Write a letter to a newspaper complaining of inconvenient train timings.
- (b) Write a letter to a friend refusing to vote for him in some election.
- (c) Write a half-column criticism for a newspaper of a film or some show which you might have seen. 10

3. Make a summary, about one-third in length of the following. Also suggest a heading for this passage and separately explain the italicised words :—

Now this distinction between rich and poor rests on two bases. Within its proper limits, on a basis which is lawful and everlastingly necessary ; beyond them, on a basis unlawful, and everlastingly *corrupting* the frame-work of society. The lawful

basis of wealth is, that a man who works should be paid the fair value of his work ; and that if he does not choose to spend it to-day, he should have free leave to keep it, and spend it tomorrow. Thus, an *industrious* man working daily, and laying by daily, attains at last the possession of an *accumulated* sum of wealth, to which he has absolute right. The idle person who will not work, and the wasteful person who lays nothing by, at the end of the same time will be doubly poor—poor in possession, and dissolute in moral habit ; and he will then naturally covet the money which the other has saved. And if he is then allowed to attack the other, and rob him of his well earned wealth, there is no more any motive for saving, or any reward of good conduct and all society is thereupon dissolved or exists only in systems of rapine. Therefore the first necessity of social life is the clearness of national conscience in enforcing the law—that he should keep who has justly earned.

10, 2, 3

ANSWERS

English Composition

1950

Pt. Jawaharlal Nehru

1. Pt. Jawaharlal Nehru was born of a wealthy parents in 1889. He was given education first in India for a few years and later on he proceeded to England to study law at the Cambridge University. After having secured the degree of M.A. LL.B. he returned to India and began to practise as a barrister at Allahabad.

But after a few years he threw himself in the political struggle of India under the dynamic leadership of Mahatma Gandhi and soon became the most popular leader of India. He was elected for the first time the President of the Lahore Congress in 1929-30. He courted Satyagraha many a time for political reasons and had to spend more than 20 years of his life in jail. He was imprisoned for the ninth time in 1942 under the Defence of India Rules and was released on 25th June, 1945.

He became the Prime Minister of the first National Government of Free India on the 15th August, 1947. He

successfully took the ship of India safely through the fiercest and bloodiest aftereffects of the partition of India. But for his wise statesmanship the problems of the refugees, their evacuation and rehabilitation could not have been solved.

After the assassination of Mahatma Gandhi in 1948, he became the topmost leader of the Congress and the political heir to Mahatma Gandhi. He possesses great abilities, courage, foresight and self-sacrifice.

He is a great writer and has written a number of books. 'My Autobiography' and 'Discovery of India' are most widely read books of his. He is a leader of the Indian Masses and a man of international fame. May he live long to take our country to the highest pinnacle of glory !

2. To

The Editor,
The 'Hindustan Times',
New Delhi.

Sir,

I shall be much obliged if you kindly publish the following few lines in the column "Letter to Editor" of your esteemed Daily at an early date :—

"Through the columns of your esteemed daily, I want to draw the attention of the Railway authorities regarding the inconvenience which the office-going people are experiencing these days at Narela station. There are two trains running through Narela to Delhi before noon. The first train passes at 8-00 a.m. and the other at 9-30. The first train is too early and it is very difficult for an office-going clerk to be ready for office before that time and this will be rendered still difficult by the approach of the winter season. The second train arrives at Narela too late to reach Delhi junction in time i.e., after 10 a.m. and under the circumstances the clerks cannot reach office in time and have to suffer a lot. It will be a great favour done if the Railway authorities go into the matter and adjust the railway timings of either of the two trains to suit the office going people."

Thanking you,

Yours faithfully,
A B C
Narela.

3. Summary

Of the two two bases to distinguish between the rich and the poor, one is lawful and everlasting while other is unlawful everlastingly spoiling the society. The former means that one should work and be paid fairly to spend or save at his discretion. Thus a prudent man will save something and lay by for rainy days. The idle man who does not work and the wasteful man who spends all will become moneyless and his habits will go loose and will try to obtain other's wealth. And if the latter succeeds in his motive, then there is no use of good conduct and the structure of the whole society will collapse: Therefore the enforcement of the law "That he should keep who has justly earned" is necessary.

Heading : Necessity of Social Life.

General Intelligence Test Paper

1950

Time allowed 30 minutes.

Don't spend more than 5 minutes on each part

Q. 1. Underline the extra word or number in the following lines. **EXAMPLE** pen, inkpot, chair, paper.

1. fire vegetable bread milk crow.
2. teacher lawyer judge carpenter doctor
3. 5 7 13 6 19.
4. bathing football hockey kabaddi cricket.
5. mango orange rose melon banana.
6. 7 28 21 27 35.
7. hair feather wool grass fur.
8. chair table charpai tank stool.
9. 19 27 30 24 6.
10. charity kindness benevolence revenge love.

Q. 2. Give the number that comes next in each of the following lines.

EXAMPLE 1. 2 5 8 11.....14
 2. 22 20 18 16.....14

1. 15 19 23 27
2. 33 30 27 24

- RGE. No. (2)
3. 3 9 27 81
4. 1 4 6 9 11.....
5. 3 6 8 16 18.....
6. 2 3 6 7 10.....
7. 1 4 8 13 19.....
8. 6 2 5 2 4
9. 64 16 32 8 16.....
10. 50 52 49 51 48.....

Q. 3. Rearrange the words in the following so as to make sensible sentences.

1. Are round apples.
2. Pigs fat some very are.
3. All soldiers well good march.
4. Dull make one sleepy one book.
- 4A. The Head worn on are Hats.
5. Carried sea the Coal is accross.
6. With is a bat played cricket.
7. Water to thirst us Quench our enables.
8. Can penny and Little a bought for be very.
9. Generally Those us who to are love.
10. Some a pittty do that is work it not like people.

Q. 4. Put a cross against the best reason or the best answer
EXAMPLE : When a little girl losses her doll she should.

- A. Cry till somebody finds it for her.
 - B. Think where she is likely to have left it and look there.
 - C. Search in her father's pocket.
 - D. Ask her mother to buy her a new one.
2. If you are caught in a shower far from home and have no umbrella.
- A. Take shelder till the shower passes.
 - B. Run all the way home.
 - C. Ask a policemen to lend you an umbrella.
 - D. Borrow money to buy a raincoat.

3. Most birds die in winter than in any other season.

- A. They lose their feathers.
 - B. Cannot get enough water.
 - C. Cannot get enough food.
 - D. Boys throw stones on them.
4. A man sneezes when he has a cold.
- A. To make other people sorry for him.
 - B. To drive away the cold.
 - C. To make use of handkerchiefs.
 - D. Because he cannot help it.
5. People go to Cinema.
- A. To learn about the countries.
 - B. To enjoy themselves.
 - C. To meet their friends.
 - D. To eat oranges and nuts.

Q. 5A. John has a sister Jane, a brother Dick, and cousin Tom, answer the following questions about these people.

1. Who is Dick's sister ?
2. Who is Jane's cousin ?
3. Who is Tom's female cousin ?
4. Who is Dick's brother ?
5. How may cousin has Tom ?

Q. 5. A cyclist rode a mile on an old fashioned bicycle which had a big wheel in front and a little behind, answer the following :—

1. Which wheel went round the larger number of time....., The big or little.
2. Which of the two wheels travelled the faster.

ANSWERS

General Intelligence Test Paper

1950

- Q. 1. 1. crow ; 2. carpenter ; 3. 6 ; 4. bathing ; 5. rose
6. 28 ; 7. grass ; 8. tank ; 9. 27 ; 10. revenge.
- Q. 2. 1. 31 ; 2. 21 ; 3. 243 ; 4. 14 ; 5. 36 ; 6. 11 ; 7. 26
8. 2 ; 9. 4 ; 10. 50.

- Q. 3.** 1. Apples are round.
 2. Some pigs are very fat.
 3. All good soldiers march well.
 4. Dull books make one sleepy.
 5. Hats are worn on the head.
 6. Cricket is played with a bat.
 7. Water enables us to quench our thirst.
 8. And very little can be bought for a penny.
 9. Generally who are those to love us?
 10. It is pity that some people do not like work.

Q. 4. 1. B. Think where she is likely to have left it and look there.

2. A. Take shelter till the shower passes.
 3. A. They lose their feathers.
 4. C. To make use of handkerchiefs.
 5. B. To enjoy themselves.

- Q. 5A.** 1. Jane is Dick's sister.
 2. Tom is Jane's cousin.
 3. Jane is Tom's female cousin.
 4. Johan is Dick's brother.
 5. Tom has two cousins.

Q. 5B. (1) Little wheel went round the larger number of times.

(2) Both equal.

Geography

1940

1. What are ocean currents and how are they caused? How do they affect climate and commerce?
2. Write explanatory notes on the following :—
 Meridian ; The Mid-night Sun ; Earthquakes ;
 Artesian Well ; and Geysers.
3. Describe the position of any *five* of the following and account for their geographical importance :—
 Singapore ; Sydney ; Cairo ; Hamburg ; Milan ;
 Montreal ; and the Panama Canal.
4. What are the important exports from India and to which of the countries they are exported.

5. Write short notes on the following :—

London; New York ; Cape Town ; Sydney and Tokyo.

6. Select any one of the following countries and give a geographical description under the headings (a) physical features, (b) climate, (c) means of communication, and (d) chief occupations of the people :

Nigeria, Argentine, Burma, Siberia, Egypt, Brazil.

7. Specify the chief articles of commerce and name the ports of export and import between Great Britain and Canada. Why are these the chief articles of commerce ?

8. Give a clear account of the general circulation of the permanent winds at the Earth's surface.

9. Write all you know about the 'monsoon type of climate' and give its world distribution.

ANSWERS Geography 1940

1. Movement of the surface water of the ocean is called **current**. Of the various causes of ocean currents, the most important are the prevailing winds and the difference in density due to variation in temperature or salinity ; some deflection of currents is caused by the rotation of the earth. Those currents caused by prevailing winds are known as drift currents, the best known being the Gulf stream. The circulation of the main ocean currents between the equatorial and the temperate regions is clock-wise in the northern hemisphere and anti-clock-wise in the southern hemisphere. Currents caused by differences of temperature are known as convection currents. Warm water of the equatorial regions flows towards the polar regions, where it cools, sinks, and returns along the ocean bed, as a bottom current, towards the equator, it then rises to the surface again. An example of a current caused due to the difference of salinity is the surface current which enters the Mediterranean sea from the Atlantic ocean owing to a small rainfall, great evaporation, and the small number of inflowing rivers, the Mediterranean has a higher salinity than the Atlantic ; a relatively fresh surface current thus flows from the Atlantic into the Mediterranean, while a relatively salt current flows in the reverse direction.

The climate of a country is greatly influenced by currents. Violent storms and foggy atmosphere are caused by difference in temperature due to meeting of cold and warm currents. For instance, the Gulf stream is largely responsible for the mild winter of North-West Europe, and the meeting of the Gulf stream and the cold Labrador current gives the dense fogs off Newfoundland. Winds passing over warm currents carry water with them and cause rainfall. Those blowing over cold currents remain dry.

Effect on Commerce.—Currents are commercially very important. The warm currents renders seaports fit for shipping and help the ships in sailing in the direction of their flow. The cold currents bring with them millions worth of fishes which proves a permanent source of a decent income to the Government of that country as well as provides fishing profession for the people.

2. *Meridian.*—Is a line of longitude or half of one of the Great circles which passes through the poles and cuts the equator at right angles. They help in measuring the angular distance of places from the Greenwich Meridian which passes through Greenwich Observatory, London, and is taken as the zero or Prime Meridian.

The Midnight Sun.—Is a phenomenon of high latitudes observed at an around mid-summer, when the sun does not sink below the horizon throughout the 24 hours and therefore may be seen at mid-night. It is due to the inclination of the earth's axis to the plane of the Ecliptic for six months and we have day and six months we have night in places in Arctic and Antarctic circles.

Earth quake.—Is a movement of the earth's crust which originates naturally and below the surface. It sometimes causes permanent change of level at the surface and great destruction is the result. It may be produced by a volcanic explosion; earthquakes, in fact, are common in most volcanic areas, and often precede or accompany eruptions. It is more likely to take place, however, under the influence of the folding and faulting of rock strata.

Artesian Well.—Is a type of well which normally gives a

continuous flow, the water being forced upwards by hydro static pressure. It is found where a basin shaped permeable layer of rock, such as chalk, is sandwiched between two impermeable layers, such as clay, so that rain falling on the outcrop of the permeable layer will filter through and collect underground. As the water cannot escape below, the permeable layer becomes saturated to the rim of the basin, and if a well is sunk through the upper impermeable layer into it, the water flows into the well. If the source of water is sufficiently high, the water in the well will gush out above the ground, possibly as a fountain, without the necessity of pumping.

Geysers.—Are hot springs which at regular or irregular intervals throw a jet of hot water and steam into the air; sometimes the jet rises to a height of 100 to 200 feet. These occur in volcanic regions.

3. *Singapore* is situated on the island of Singapore which lies at the southern extremity of the Malaya Peninsula. It is the most important commercial centre and port of the Peninsula. It is also an important station of the Imperial air route to the East. The port is "free" and its harbour is big and safe. As it commands naval communication, it is of great strategic importance and has recently been made a strong naval base of the Britain. Its chief imports are rubber, tin ore, rice, cotton, goods, tobacco, and sugar, while the exports are rubber goods, tin, copra and pepper.

Sydney is an important harbour situated on the eastern coast of Australia. Its chief exports are wool, wheat skins, flour, butter, meat while it imports woollen and cotton goods, machinery, petroleum etc.

Cairo is the capital of Egypt, situated at the river Nile with the largest population of 13,00,000 in Africa. As it is accessible by smaller ships, it can very easily collect the products of the areas behind it. It has priceless collection of antiquities.

Hamburg is an important seaport of Germany situated on the river Elbe. The manufactures of Southern Germany is exported through this port. Much expenses is incurred in keeping the

port clear of the sand bars from which the river mouths in Germany suffer.

Montreal is situated on an island in the St. Lawrence river guarding the entrance to Canada. It is situated at the converging point of many water and land routes. Moreover it can be reached by ocean going streamers of the Atlantic.

4. With the partition of India, the exports of India have been curtailed to some extent. However, the following are the chief exports of India at present :

Jute goods to America, Australia, Argentine, Pakistan ; Hides and skins to the United Kingdom, the U. S. A., Japan, and France, Cotton textiles to Pakistan, Australia, New Zealand, Ceylon, Burma, America, Italy ; Coal to Pakistan ; Oil seeds to Pakistan, Britain, France, Holland, U. S. A. Tea to Great Britain, Canada, Australia, Russia ; Spices to America and Great Britain.

5. *London* : It is the biggest town in the world having about $7\frac{1}{2}$ million population. It is Metropolis of Great Britain situated on the river Thames, where big vessels can have access and therefore considered to be the best sea-port for exporting manufactures of the town.

New York : It is the second largest city of the world. It is situated at the mouth of Hudson river. It has an excellent harbour and is the largest port of the Atlantic in U. S. A. Its chief exports are meat, wheat, petroleum, cotton and all kinds of manufactured goods.

Cape Town : It is the capital of the Cape Province. It is the chief port of South Africa and has an excellent harbour. It commands the British trade routes to India, Australia and Far East. It is a coaling station and its chief exports are gold, diamonds, wool, hides, copper and wine.

Sydney : It is an important harbour situated on the eastern coast of Australia. Its chief exports are wool, wheat, skins, flour, butter, meat, while its imports are woollen and cotton goods, machinery and petroleum, etc.

Tokyo : It is the capital of Japan and is now the headquarters of the Allied Supreme Commander in Far East,

General Ridgway. It is the biggest industrial centre of Japan where watch-making, chemical, bronze and lacquer industries are carried on.

6. *Burma* : (a) *Physical Feature* : It is a mountaneous country, the mountains spread from North to South. Three important rivers namely, Irrawadi, running between Arakan Yomas and the Pegu Yomas, Sittang running between Pegu Yomas and Shan hills, while Salween flows between the Shan ranges. The plain portion of Burma lies on the mouths of these rivers and along the banks thereof.

(b) *Climate* : Summers are hot and moist while winters cool and dry. This climate prevails here because during summer the monsoons blowing over the sea bring rain, while in the winter the monsoons blow from the land and bring no rain. The Shan plateau remains cool all the year round.

(c) *Communications* : Most of the country being hilly and clad with forests, the communications are naturally difficult. One railway line runs from Rangoon towards north along the Sittang river. The river Irrawady and its tributary Chindwin, are the important highways of Burma, while small boats run in the other streams. The roads in Burma are also numbered.

(d) *Occupations* : The chief occupation of the people who inhabitate in the fertile plains along the river banks is agriculture. Burma is rich in minerals, oil, tin, silver, etc. and mining is an important industry. As elephants are found in the jungles of Burma, ivory making is also an important industry. Breeding of silk-worms and forest cutting in hilly areas, also constitute the main occupations of the people.

7. Canada is situated in the cool temperate region and westerlies which blow here all the year round bring rains and therefore the country is covered with forests which supply soft timber, such as dial, which is specially used for making paper. Fur-bearing animals are also found in these forests. The main occupations of the people here are (a) agriculture ; (b) lumbering and (c) hunting fur-bearing animals and fishing near the coasts. Pararies of Canada have also developed rapidly and now enormous quantity of wheat is grown in these vast grasslands. Canada has the natural facilities for cattle and

poultry raising also. For these reasons, Canada exports wheat, wood pulp, and paper, meat, wheat, flour, cheese, butter, fish furs of foxes.

Britain being a manufacturing country exports to Canada, Machinery, cotton and woollen goods and cutlery.

Ports of Canada : Halifax, Montreal, Quebec ; of Britain—Liverpool, Southampton and Dyver.

8. There are two kinds of constant or permanent winds *e. g.* trade winds and anti-trade winds.

The rays of the sun fall almost vertically at the Equator. So, the air there is hot and its pressure is low. Near 30°N . and 30°S . in the tropical belts of calms the pressure is high. Since winds always blow from high pressure areas to low pressure areas, winds from these belts of calms blow towards the Equator. These winds push up the hot air at the Equator which when it goes high up blows polewards. At 30°N and 30°S these winds cool and descend, thus keeping up the supply of air and maintaining the high pressure in these belts. These winds are called Trade Winds.

Then again near 350°N and 35°S the pressure is high but near 60°N and 60°S the pressure is low. Since winds always blow from high pressure areas to low-pressure areas, winds blow from 35°N to 60°S and from 35°S to 60°S . These winds are called Anti-trade or Westerlies.

9. In the region of Monsoon Type of Climate, summers are hot and moist while winter dry. Since rainfall is only in Summer, this region is known as the Region of Summer Rainfall. The Monsoon region lies mostly in the South-east of Asia and also includes a portion of Australia and America, India, Burma, Indo-China, China, part of Ceylon, The Phillipine Islands, Japan, Korea, and Munchukuo are included in this region. The natural vegetation of this region especially in places where rainfall is heavy is forest. The chief trees of these forests are teak and sal wood. But ebony, sandal wood, bamboo, mulberry etc. are also grown. Cultivated crops are abundant in this region. Hot and moist plains grow rice, maize, cotton, sugarcane, indigo, tobacco, etc. Coconut flouri-

shes in the hot coastal plains. Since this region is very hot and very moist and vegetation is abundant, the population of this region is very dense. The chief occupation of the people is agriculture.

Geography 1941

1. On the map of the world supplied:
 - (a) Insert Great Britain, Canada, Union of South Africa, Australia : New Zealand, Burma and Iceland.
 - (b) Indicate Suez Canal and Panama Canal.
 - (c) Locate Cyprus, Aden, Singapore, Basra, Odessa, Tehran, Tobruk, New York.
 - (d) Name Andes, Atlas and Nilgiris Mountains.
 - (e) Write the words petroleum, rubber, tea and sugarcane each, across one area where the commodity is largely produced.
 - (f) Indicate the Cape to Cairo Air Route.
2. Describe the natural vegetation of (a) a region in which equatorial conditions prevail (b) one in which the climate is of continental type. In each case also indicate and account for the chief cultivated crops of the region.
3. Explain :
 - (a) The mountains are cooler than the plains.
 - (b) The ships crossing the Atlantic alter their times daily.
 - (c) The days are longer in summer as one goes north from the Equator.
4. Select one area of dense population and one of scanty population in India and show how far the condition is due to geographical reasons.
5. Compare and contrast the Punjab and Assam Provinces in respect of relief, climate, natural vegetation and human occupations.
6. (a) In what parts of India are the following produced and why? (i) What, Rice, (2) Temperate Fruits, (3) Wool, (4) Cocoa-nuts?
 - (b) Letters are posted by air mail from Lahore to the following stations : (1) Calcutta, (2) Hyderabad (Deccan) (3) Trinco-

malli (Ceylon), (4) Singapore. Mention the route each letter will follow, giving only two important halting stations on the route and if possible, show the routes in a rough sketch map of India.

ANSWERS Geography 1941

1. For answers to Parts (a), (b), (c), (d) and (6) consult some Atlas.

(e) *Petroleum*. Iraq, Iran, U. S. S. R., U. S. A., Burma, Peru and Columbia.

Rubber : India, Malaya, Brazil, Indo-china, East Indies, Ceylon, Thailand.

Tea : China, India, Ceylon, Japan and East Indies.

Sugarcane : India, Cuba, Formosa, Phillippines, Java, Hawii Islands, Brazil, Australia, East Indies.

2. (a) In equitorial regions intense heat and heavy rainfall prevail throughout the year and hence the natural vegetation is dense, impenetrable, evergreen forests. The undergrowth is also very thick. The chief trees of these forests are rubber, mahogany, cinchona, Palms and on the sea-coast coconut.

Where forests have been cleared, crops requiring a hot and moist climate e.g. rice, sugarcane, coffee, cocoa, rubber, spices, etc. are cultivated.

(b) In the region of continental type of climate, the rainfall is very scanty and the range of temperature is very great. No natural vegetation except thorny shrubs is found in this region. Where there is some rainfall, maize, barley, etc. are cultivated. The best example of a region of continental type of climate is Central Asia.

3. (a) There are two chief reasons why mountains are cooler than plains—(1) The air of the mountains is rarer than that of the plains and as the retaining of heat depends on its density, the air of mountains absorbs less heat than the air of plains. Moreover, owing to the rarity of the air on the mountains, the heat absorbed by day is radiated very quickly at night. Thus nights in the mountains are much cooler.

(2) The surface of the mountains is very uneven so that the major portion is always in the shade. The sun does not heat much of the land which may heat the air.

(b) The earth revolves once in 24 hours on its axis, i.e. it passes through 360° in 24 hours or 15° an hour. The ship crossing the Atlantic moves west and east like the earth and hence when a ship passes through 15° there will be a difference of one hour between the places of departure and arrival as the former is in the east of the latter, its time would be ahead by one hour and that is why ships crossing the Atlantic alter their time daily.

(c) In summer, the inclination of the North Pole towards the sun is at its maximum so that the maximum portion of the northern hemisphere is in the light, thus the days are longer in summer as we go northwards from equator.

6. (a) *Wheat* : It is chiefly grown in the Punjab, United Provinces and the Central Provinces. As these provinces have sandy alluvial soil with cold moist climate at the time of sowing of and hot dry at the time of harvesting.

Rice : A rich alluvial soil is best suited for its cultivation. It requires a good deal of water so much so that it must remain under water till it has reached a good size. It is therefore chiefly grown in the Deltas of the Ganges and Irrawady. The plains of Bengal, Madras, the U. P., and the Deccan rivers, Bihar, the Surma and Brahmaputra valleys and west coast plains.

Temperate Fruits : A climate of temperate region is required for their growth.

As North-west of India has a like climate we find that Kashmir, Quetta districts, Baluchistan and Kangra Valley, Peshawar Distt. are great producer of these fruits.

Wool : It is gathered from sheep reared in the regions of scanty rainfall i. e. western parts of the Punjab, N. W. F. Province, Gilgit, etc.

Cocoanut : It requires sandy soil and plenty of rainfall. It is chiefly grown in coastal strips of the western ghats near sea shore ; Malabar coasts, in the Nicobar & other islands of the Indian Ocean & Cylon.

- (b) (1) Lahore, Delhi, Allahabad, Calcutta.
 (2) From Lahore to Karachi, from there via. Bhuj, Ahmedabad, Bombay to Hyderabad.
 (3) From Lahore to Hyderabad as above and from there to Madras and Trichinopoly to Trincomalli (Ceylon) or from Bombay via. Goa, Trivandrun to Trineomalli.
 (4) Lahore to Delhi and thence to Calcutta & from there straight to Singapore.

4. The Indo-Gangetic Plain is thickly populated while the Rajputana desert is so thinly populated. For, in the former, we find good climate, plenty means of communication, fertile soil, ample rainfall which enable the people to earn their livelihood easily with little labour, while the latter has practically no rainfall, which renders the soil sandy and barren and means of communication difficult.

5. *Punjab* : (a) It is an alluvial plain, its surface is even, the soil is fertile watered by perrenial streams. Rainfall is scanty and means of irrigation are artificial.

(b) The climate is *extreme*, that is, it is extremely hot in summer and extremely cold in winter. Forests in the Punjab cover comparatively a small area.

(c) The main occupation is agriculture. Cotton and woollen textile manufacturing, gardening, mining are some other occupations found in the Province.

Assam : (a) It has hilly and uneven surface. Deep valleys are found in the Province—Heavy rains—means of irrigation natural.

(b) The climate is hot and damp in summer and dry and cold in winter. Hills are covered with thick forests.

(c) A very small portion is under cultivation. The principal crop is rice. Chief occupation is forest cutting.

Geography

1950

Time allowed : 2 hours.

Maximum Marks : 100.

Note :—1. Attempt question 1 and any *Four* more.

2. Give suitable sketch maps wherever necessary.
 3. Twenty marks are reserved for neatness, legibility and good handwriting.
1. Draw a full page outline map of India and in it :
 - (a) Locate the ports of Chittagong, Madras and Bombay and in each case mention one major commodity of export.
 - (b) Name without boundaries the States of Kashmir and Hyderabad.
 - (c) Show by a double-line the course of the Grand Trunk Road and name its two end towns.
 - (d) Shade in pencil the regions which enjoy rainfall in the winter months. 16
 2. Answer both (a) and (b).
 - (a) Why is the Atlantic the busiest ocean in the world ?
 - (b) Describe briefly the country through which the Trans-Siberian Railway passes from the Urals to the Pacific Coast. What is the strategic and economic importance of this Railway to Russia ? 16
 3. Mention the chief desert lands of the world and explain why are they so situated. (Particular reference to the Indian desert desirable). 16
 4. Make small sketches to show the situation of Marseilles, Liverpool, Chicago and Allahabad and write notes explaining how their geographical position has helped the growth of these towns. 16
 5. Where over the globe is the Mediterranean type of climate found ? How is it caused ? Give broad features of the climate and natural vegetation of the Mediterranean region. 16
 6. Give a brief geographical account of either Assam or Orissa using the headings :—
 - (a) Physical Features (b) Climate (c) Mineral and Agricultural Resources and (d) The people and their occupations. 16
 7. What raw materials do the British manufacturers import from Bharat and Pakistan ? Where are they produced in the Indian sub-continent ? Where are they manufactured in Great Britain ? How are the manufactured articles consumed ? 16

7. Explain why :—

- (a) The Railway-net is denser in the Indo-Gangetic plain than in the Deccan ?
- (b) Bengal is more densely populated than Sind ?
- (c) Bombay and its suburbs are so important for cotton manufacture ?
- (d) China has so poor means of communication.

— — —

ANSWERS

1950

Geography

1. (a) The candidates should draw the map and locate the ports themselves. The chief exports of the respective ports are as under :—

Chittagong : Tea, rice and teak wood.

Madras : Leather, oil seeds, cotton, hides, oil seeds, skins and manganese.

Bombay : Wheat, opium, rice, oilseeds, hides, skins and manganese.

(b) The candidates may themselves name the States in the map.

(c) Candidates should provide the course of the G. T. Road in the map. It runs between Peshawar and Calcutta. It is 1500 miles long.

(d) The Punjab, the N.-W.F. Province, Baluchistan and Madras are the regions which receive rain in winter. The boundaries of the respective provinces may be shown in the map by the candidates themselves.

2. (a) Europe and Africa are situated on the east of Atlantic ocean and North and South America on the west of the ocean. Countries on both sides of Atlantic, countries of Europe and America, are highly industrialised. Raw materials are plentifully available in Africa and in the countries of South America. So the trade and industries on both sides of the

Atlantic are in great flourishing condition and ships are constantly passing on both sides making the ocean very busy.

(b)

3. The chief deserts of the world are :—

(a) *Hot Deserts* : Sahara desert of North Africa, Kalahari Deserts of South Africa, Arabia, Iraq, Iran, Sind, Rajputana, and Thar Deserts, West Australian deserts, Atacama desert of Chile and Peru.

(b) *Cold Deserts* : Desert of Kizil Kum and Kara Kum, Desert of Takla Makan, Desert of Gobi and Desert of Patagonian.

Reasons : These are two chief reasons why deserts are found in these regions ; namely,

(a) For six months the movement of the air in these regions is from above downwards, that is, from cold regions to warm regions, Thus the air is heated so that no condensation can take place. Therefore there are no rains today.

(b) In the next six months these regions are in the range of the trade winds. These trade winds are either land winds which contain no moisture, or if they pick up any moisture by blowing over an ocean, they lose it in eastern parts so that the western parts remain dry. This is why deserts are found in the west of these regions.

Reasons of cold deserts :—(i) These regions receive very scanty rainfall, because they all lie in the rain shadows. The mountains prevent the rain-bearing winds from reaching these parts.

(ii) A cold region is rainless because on account of intense cold there is very little evaporation here. Whatever evaporation there is, precipitates in the form of snow.

Why Rajputana is Dry

The monsoons do blow over Rajputana, but since there are no mountains in their way to condense their moisture, they pass on without causing any rains. The Aravallis lie parallel to the winds, hence there is some rain on one end of those hills. The Bay of Bengal monsoons which blow along the Himalayas

do not reach Rajputana. That is why Rajputana is dry during Monsoon season.

4. *Marseilles* :—As it is situated on the Suez route, and is the most important seaport of South France in Mediterranean region. It manufactures olive oil, soap, silk, otto of roses, silk and wine are the chief exports.

Liverpool :—It is a well-known seaport of the last coast of England. Manchester goods are exported from this place. It is also noted for soap manufacture and ship building.

Chicago :—It is the largest town of U. S. A. on the Michigan lake and is now the world's largest meat centre. This is due to the growing of enormous quantities of wheat and maize in this region. Nearly half the cattle of U. S. A. and more than half the pigs are found in this belt. Cattle from the drier western lands are fattened here. This has made Chicago the largest meat producing centre of the world.

Allahabad :—It owes its influence to its situation at the confluence of the Ganges and Jamuna. This confluence has made it a sacred spot and an important pilgrimage during Magh Mela. This is due to the fact that in ancient times the rivers were the chief means of communication.

5. (i) North California, Portugal, Spain, South France, Italy, Turkey, Greece, Syria, Palestine, Algeria, Morocco, Central Chile, Cape Province, South West Australia and part of Victoria Province are the countries where Mediterranean type of climate is found.

(ii) This type of climate is caused because this region lies between 30° and 40° in the west of the continents, hence during summer part of this region is in the range of the trade winds which become dry by the time they reach the western margins, and part of it is within the tropical belts of calms, hence there is no rain. But in winter westerlies blow here which being sea winds are moisture laden and bring rain. On account of moderating influence of the sea and the rainfall, winters are mild.

(iii) *Broad features of the climate* :—Summers are not and dry while winters are mild and rainy. The characteristic feature of this region is that the rainfalls in winter only and there is draught in summer. The average annual rainfall is $25'$ to $30''$.

(iv) *Vegetation* :—Summers are hot and dry, hence only such plants can grow here as can stand the heat and dryness of summers, that is :—

(a) Plants with pointed and oil leaves, so that they may not allow much evaporation, such as lime, olive, fig, orange, etc.

(b) Plants which have long roots so that they may obtain water even from long distances, such as vine and mulberry.

(c) Plants which have thick barks so that they may prevent evaporation such as cork, oak, etc. The typical vegetation of this region is fruits which owe their growth to bright sunny conditions. The chief fruits are olive, orange, lemon, grapes, peach, apricot, plum, pear, apple, fig and mulberry.

VI. (a) *Physical features* :—The soil is hilly with deep valleys.

(b) *Climate* :—The climate is hot and damp. It is dry in winter.

(c) *Mineral & Agricultural resources* :—Petrol, rice, tea, lac, timber.

(d) *The people and their occupations* :—Agriculture is the main occupation, while silk and shellac making, tea planting, timber trading and forest cutting are other occupations.

VII. *Raw materials* :—Jute, cotton, hides, oil seeds, wool lac, rubber and coconut fibre are imported by Britain from India and Pakistan, and these are grown in the following areas in India :—

Jute :—Bengal.

Cotton :—C. P., Berar, Gujerat, Kathiawar.

U. P., Madras, Bombay.

Oil Seeds :—Punjab, U. P., Behar, Bengal, C. P., the Deccan.

Wool :—It is obtained from sheep reared on the hills of the Punjab, U. P., Kashmir and Madras.

Rubber :—Travancore, Cochin, Mysore, Madras, Coorg.

Coconut fibre:—Travancore, Cochin, Eastern and Western Ghats, Lacadive and Maldivé islands.

Lac:—Orissa. Bengal, C. P., U. P., Assam, Kashmir, Chhota Nagpur.

Hides:—Hides are taken from the dead animals or slaughtered ones. Kashmir, Punjab, U. P., Mysore Kathiawar, East Rajputana, Northern Madras and Malwa Plateau.

8. (a) The number of railways have been built in the Indo-Gangetic plain because this is most densely populated part of India. Arrangements had got to be made for passengers as well as goods traffic. The land is level, it is easy to build railway. While in Deccan it is very costly to build railways in hilly tracts therefore the number of such railway is very small. Moreover the population and production in the Deccan is small.

(b) The province of Sind is practically outside the range of the monsoon and therefore a sandy plain. The climate is therefore hot and dry in summer and cold and dry in winter. The means of communication are not good. The land is unproductive except at the delta of the Indus river. Hence population is sparse. While Bengal receives heavy rainfall. The land is deep and fertile. The climate is also quite health giving, rivers are in abundance and their deltas productive. Means of communication are easy. Fishes are found in rivers which renders the means of livelihood easy. That is why Bengal is densely populated.

(c) Cotton generally grows well at places which receive rainfall between 20" and 40" a year. So the climate of Bombay and suburbs is well suited for the cultivation of cotton. Besides we have fertile black cotton soil in this area which can retain moisture for a long time and thus feed the plants long after the rains have ceased. That is why we find cotton textile manufacturing mills in this area.

Nearness of raw material ; availability of capital due to the enterprising people of this area ; humid climate which favours the making of yarn ; nearness of Bombay to Europe from where textile machinery is imported ; development of

hydro-electric power in ghats which solved the problems of power supply to Bombay city, are some more reasons we find cotton mills in this area.

1938

Arithmetic

Time allowed : 2 hours.

Maximum marks : 100.

Note : Credit will be given for intelligent process and neat figuring.

Q. 1. Do the following using the shortest method :

(a) 63604×999

(b) $324^2 - 324 \times 124$.

Q. 2. (a) Find the value of $216^{\frac{3}{4}}$

(b) Find the answer correct upto 3 decimal places :

$$\frac{.0034 \times .19}{.076 \times .102}$$

Q. 3. (a) Divide Rs. 782 into 3 parts in the ratio of $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$.

(b) Find by practice the price of 7 mds. 36 seers at Rs. $8\frac{1}{2}$ /- per maund.

Q. 4. In an examination a candidate must get 33 p. c. marks to pass. A candidate gets 250 marks and fails by 14 marks. What is the maximum number of marks ?

Q. 5. A man had Rs. 4,000 a part of which he lent at 5% and the rest at 4% and the whole interest recovered was Rs. 184. How much did he lend at 4% ?

Q. 6. A man walking at 4 miles per hour against a train 121 yds. long takes $5\frac{1}{2}$ seconds to pass it. Find the time he will take to pass it when he is walking in the same direction as the train.

Time allowed : 2 hours.

Maximum marks : 100.

Note : Credit will be given for intelligent process and neat figuring.

- Q. 1. (a) Using the shortest method divide 986003 by 625.
(b) Simplify : $(437 - 75 - 5 \times 35 - 2 \times 35)$

Q. 2. A bill of Rs. 59, 6 annas is paid in rupees, eight-anna pieces and annas. The number of annas is three times the number of eight-anna piece and the number of eight-anna pieces is twice the number of rupees. Find the number of coins of each description.

Q. 3. If 17 cwt. are carried 15 miles for Rs. 6, 6 as. how far can 1 ton 12 cwt. be carried for 14 as. ?

Q. 4. Find the cost of turfing a square lawn whose each side is 120 ft. at 6 pies per square yard leaving a quadrant of $10\frac{1}{2}$ ft. radius at each corner for a flower bed.

Q. 5. Find by practice the value of 13 miles 5 furlongs 170 yards of wire at Rs. 43, 6 as. per mile.

Q. 6. A boy buys eggs at 9 for 3 annas 9 pies and sells them at 6 annas a dozen. Find his gain per cent.

Q. 7. A property is divided between A, B and C. A and B together get Rs. 7,400, B and C together get Rs. 9,500 and C and A together get Rs. 8,500. Find the share of each.

Q. 8. Re. 1 at 3% per annum compound interest after 10 years amounts to Rs. $(1.03)^{10}$. Calculate the amount correct upto 3 places of decimals using the expansion

$$(1+x)^n = 1 + nx + \frac{n(n-1)}{2 \cdot 1} x^2 + \frac{n(n-1)(n-2)}{3 \cdot 2 \cdot 1} x^3 + \dots$$

Time allowed : 2 hours.

Maximum marks : 100.

Q. 1. (a) Divide two thousand six hundred million, five hundred and nine thousand, and fifty by 2214.

(b) A, B and C together purchased a ship. A paid for $\frac{2}{9}$ of the ship, B paid for $\frac{3}{9}$ and C paid £400. What sum did A pay.

Q. 2. (a) Subtract £4. 14s. 7d. from £100 and divide the result by 37.

(b) What fraction of $1\frac{1}{8} \times \frac{5}{12}$ of Rs. 60 is $\frac{3}{4}$ of Rs. 15-4-0?

Q. 3. Rs. 2652-13-4 are divided among two men, three woman and four children so that each woman's share is twice as much as a child's and each man's share three times as much as a woman's. Find the share of each.

Q. 4. Find by practice or otherwise the cost of 26 cwts. 3 qrs. 17 lbs. at £15, 9s. 2d. per cwt.

Q. 5. (a) The Price of 8 yds. of cloth is as much above Rs. 2 as that of $2\frac{2}{3}$ yds is below Rs. 2. Find the cost per yard.

(b) A boy labourer was engaged for 120 days on the condition that for every day he worked he should receive 7 as. 6 pies, and for every day he played he should forfeit 3 as. 6 pies. At the end of the time he received Rs. 21-14 annas. How many days did he play?

Q. 6. A contractor undertakes to finish a piece of work in 30 days and employs 16 men upon it. After 12 days only one quarter of the work is done. How many boys should be engaged to assist the men so that the contract may be fulfilled, 5 boys working as much as 2 men?

Q. 7. A sum of money amounts in $5\frac{1}{2}$ years to Rs. 2440 at 4% per annum, simple interest. What will it amount to in 8 years at $6\frac{1}{2}$ % per annum simple interest?

Q. 8. Find the compound interest on £300 for three years at 5% per annum.

Time allowed : 2 hours.

Maximum marks : 100.

Note :—Twenty marks are reserved for good handwriting and general neatness.

Q. 1. Add together the odd integers which are less than 40, excluding 3 and its multiples ; and prove that the sum diminished by 2 is a prime number.

Q. 2. State the rules for finding the least common multiple of a set of given numbers.

Find the highest common factor and the least common multiple of 154, 252 and 476.

Q. 3. Simplify :—

$$\frac{49}{4} - \frac{9}{2} \div \frac{25}{11} - 2\frac{1}{3} \left[1 - \frac{11}{45 - \frac{13}{2 - \frac{4}{4}}} \right]$$

.103

Q. 4. A certain integer is multiplied by 4, and the product increased by unity. The result is then multiplied by 4, and the products increased by unity ; and the same process is repeated two times more. The final result lies between 1800 and 1900. Find the original integer.

Q. 5. Equal vessels A and B, each three-quarters full contain milk and water respectively. The vessel A is filled from B, and when its contents have been thoroughly mixed, B is filled from A. What is now the proportion of milk to water in each vessel ?

Q. 6. The scale of a speedometer is graduated in kilometers per hour and it is desired to convert it to miles per hour. Given that km. = 1093.6 yards, find to the nearest unit the number of km. per hour, corresponding to 20, 50 and 60 miles per hour, respectively.

Q. 7. Two cars travel from A and B along the same road leaving A at the same time and travelling at different (constant) speeds. The first car travels without halting, and reaches B in 1 hour 30 minutes. The second car halts for 10 minutes but arrives at B at the same time as the first car. If no halt had

occured it would have reached B while the first car and still 5 miles to travel. What is the distance from A to B.

Q. 8. A well is operated by a pump which delivers 40 gallons of water per minute, and costs Rs. 1-12 per day to turn. In addition it is necessary to allow interest 6% per annum on Rs. 1450, the initial cost of the pump. Find to the nearest pie the cost of 1000 gallons of water if the pump works for 8 hours per day.

Q. 9. A banker pays to his clients simple interest at 2% per annum on deposits. He retains 40% of the deposits in the form of ready cash, which earns nothing and he invests the remainder at an average rate of 5% per annum. As this takes time, the invested capital is earning interest on an average for only 11 months in the year. What percentage of profit does he gain on deposits?

Q. 10. A sum of money is invested at 5% compound interest, payable annually. Find correct to the nearest pie the accumulated interest on each Rs. 100 invested, at 5 years.

1942

Q. 1. Simplify :

$$\begin{array}{r} 2 \div \frac{16}{3} \div \frac{5}{4} \\ 2 \div \frac{8}{7} \times \frac{5}{4} \end{array} \quad \begin{array}{r} 3.5 \times 0.24 \\ 2.1 \end{array}$$

Q. 2. Find the H. C. F. of 504, 2394, 2835.

Q. 3. The price of 20 tons of coal at the pit mouth was £23-8-4. It was carried 40 miles by rail at a cost of 3/8d. per ton per mile and was retailed at a total profit of £ 5-16-8. What was the price per ton retail?

Q. 4. 625 men are employed to work on a railway embankment, 2 miles 950 yards long, which they are expected to finish in 7 weeks. But at the end of 2 weeks, it was found that they had finished only 750 yards. How many more men must be engaged to finish the work in the required time?

Q. 5. The matting of a hall, 3 time as long as broad at 4 annas per sq. ft. costs Rs. 300; the cost of colour washing the walls at 3 annas per sq. yd. was found to be Rs. 83/5/4. Find the dimensions of the hall.

Q. 6. Find the amount (correct to an anna) of Rs. 100 invested at 3% compound interest at the end of 4 years.

Q. 7. A, B, C run a shop. A invests Rs. 750, B invests Rs. 1,000 and C invests Rs. 1,250. If the profits earned be Rs. 150, find the share of each in the profits.

Q. 8. A and B ran a mile race. A reached the winning post in 4 minutes 15 seconds, B took 15 seconds more. Find their speed in miles per hour.

Q. 9. The G. I. P. Railway authorities have arranged an educational tour covering a distance of 2,220 miles for an all inclusive charge of Rs. 108. If three fourths of this charge be the railway fare, what is approximately the rate charged per mile?

If the usual rate be 1 anna per mile, what is the total reduction in fare allowed by the railway authorities?

ANSWERS

1938

Arithmetic

$$\begin{aligned}\text{Q. 1. (a)} \quad 63604 \times 999 &= (63604 \times 1000) - 63604 \\ &= 63604000 - 63604 \\ &= 63540396 \quad \text{Ans.}\end{aligned}$$

$$\begin{aligned}\text{(b)} \quad 324^2 - 324 \times 124 \\ &= 324 \times 324 - 324 \times 124 = 324(324 - 124) \\ &= 324 \times 200 = 64800 \quad \text{Ans.}\end{aligned}$$

$$\begin{aligned}\text{Q. 2. (a)} \quad (216)^{\frac{2}{3}} \\ &= \sqrt[3]{(216)^2} \\ &= \sqrt[3]{6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6 \times 6} \\ &= 6 \times 6 \times \sqrt[3]{6} = 36 \times 1.56 = 56.16 \quad \text{Ans.}\end{aligned}$$

$$\begin{aligned}\text{(b)} \quad \frac{\sqrt{.0034 \times .19}}{.076 \times .102} &= \sqrt{\frac{4 \times 19}{76 \times 102}} \\ &= \sqrt{\frac{1}{12}} = \frac{\sqrt[3]{31 \times 12}}{12} = \frac{3.464}{12}\end{aligned}$$

$$= .288 \quad \text{Ans.}$$

Q. 3. Ratio = $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$
 or $6 : 8 : 9$

\therefore sum of ratio = 23

1st part = $\frac{6}{23}$ of 782
 $= \frac{6}{23} \times 782 = 204$

2nd part = $\frac{8}{23}$ of 782
 $= \frac{8}{23} \times 782 = 272$

3rd part = $\frac{9}{23}$ of 782
 $= \frac{9}{23} \times 782 = 306$

204, 272, 306 Ans.

	Rs.	A.	P.	
(b) Price of 1 md.	8	12	0	
			7	
„ „ 7 mds.	61	4	0	
„ „ 20 srs.	4	6	0	20 srs. = $\frac{1}{2}$ of 1 md.
„ „ 10 „	2	3	0	10 „ = $\frac{1}{2}$ of 20 srs.
„ „ 5 „	1	1	6	5 „ = $\frac{1}{2}$ of 10 „
„ „ 1 „	0	3	6	1 „ = $\frac{1}{5}$ of 5 „

Cost of 7 mds. 36 srs. Rs. 69—2—0 Ans.

Q. 4. Marks required = 33 %

Marks obtained = 250

„ less „ = 14

\therefore 33 % marks = $250 + 14 = 264$

\therefore Maximum marks = $\frac{100}{33} \times 264$
 $= 800$ Ans.

Q. 5. Suppose he lends the whole at 5 %

$$\text{Then the interest} = 4000 \times \frac{5}{100} \times 1 = 200$$

$$\text{Difference in interest} = 200 - 184 = 16$$

$$\text{Difference in rate of interest} = 5 - 4 = 1$$

$$\text{If difference is 1, sum lent at 4 \%} = 100$$

$$\begin{aligned} \text{" } 16 \text{ " " } &= 100 \times 16 \\ &= 1600 \text{ Ans.} \end{aligned}$$

Q. 6. 1st case.

$$\text{Distance travelled in } 5\frac{5}{8} \text{ seconds} = 121 \text{ yds.}$$

\therefore sum of speed of man and the train

$$= \frac{121 \times 60 \times 60 \times 8}{2 \times 1760 \times 45} = 44 \text{ m.p.h.}$$

$$\therefore \text{ The speed of train} = 44 - 4 = 40 \text{ m.p.h.}$$

2nd case.

$$\text{Speed} = 40 - 4 = 36 \text{ m.p.h.}$$

$$36 \text{ miles are travelled in} = 60 \times 60 \text{ seconds}$$

$$1 \text{ " will be travelled} = \frac{60 \times 60}{36}$$

$$\begin{aligned} \frac{121}{1760} \text{ " " " " } &= \frac{60 \times 60 \times 121}{36 \times 1760} \\ &= 6\frac{7}{8} \text{ seconds Ans.} \end{aligned}$$

1939

ANSWERS

Q. 1. (a) Since $625 = \frac{10000}{16}$

Multiply 986003 by 16 and divide by 10000.

$$\begin{aligned} &= \frac{986003 \times 16}{10000} = \frac{15776048}{1000} \\ &= 1577.6048. \text{ Ans.} \end{aligned}$$

$$\begin{aligned}
 (b) \quad & 437 - [75 + (5 \times 35 - 2 \times 35)] \\
 & = 437 - [75 + 35(5 - 2)] \\
 & = 437 - [75 + 105] \\
 & = 437 - 180 = 257 \text{ Ans.}
 \end{aligned}$$

Q. 2. Suppose the coin = 1 rupee

\therefore Eight-anna pieces will be = 2

The anna pieces „ = 6

\therefore Value of the coins

= 1 rupee + 2 eight-anna pieces

+ 6 annas = Rs. 2.6 as.

\therefore If Rs. 2, 6 as. is the amount, the number of rupees = 1

If the total amount is Rs. 59, 6 as. the number of rupees

$$\text{would be} = 59 \frac{6}{16} \div 2 \frac{6}{16}$$

$$= \frac{950}{16} \times \frac{16}{38} = 25$$

\therefore Number of eight-anna pieces = $25 \times 2 = 50$.

Number of one-anna pieces = $50 \times 3 = 150$.

Rs. = 25

$\left. \begin{array}{l} \text{Eight-anna pieces} = 50 \\ 1 \text{ anna pieces} = 150 \end{array} \right\} \text{ Ans.}$

Q. 3. 17 cwts. of weight in carried in Rs. $6\frac{3}{8} = 15$ miles.

$$1 \text{ „ „ „ } = 15 \times 17$$

$$\text{„ „ „ Re. } 1 = \frac{15 \times 17 \times 8}{51}$$

$$32 \text{ „ „ „ } = \frac{15 \times 17 \times 8}{51 \times 32}$$

$$\text{„ „ „ } \frac{14}{16} = \frac{15 \times 17 \times 8 \times 14}{32 \times 51 \times 16}$$

$$= \frac{35}{32} = 1 \frac{3}{32} \text{ Miles Ans.}$$

Q. 4. One side of the sq. lawn = 120 ft.

Area of the lawn

$$= \text{side} \times \text{side}$$

$$= 120 \times 120 = 14400 \text{ sq. ft.}$$

Area of 4 quad rants

$$= \frac{21}{2} \times \frac{21}{2} \times \frac{22}{7}$$

$$= \frac{693}{2} = 346 \frac{1}{2} \text{ sq. ft.}$$

Area to be turfed

$$= 14400 - 346 \frac{1}{2}$$

$$= 14053 \frac{1}{2} \text{ sq. ft.}$$

$$= \frac{28107}{2 \times 9} \text{ sq. yd.}$$

$$\text{Cost of turfing of one sq. yard} = \frac{6}{12 \times 16}$$

$$" \quad \frac{28107}{18} \quad " = \frac{28107}{18} \times \frac{6}{12 \times 16} = \frac{3123}{64}$$

∴ Rs. 48. 12 as. 9 p. Ans.

Q. 5.

Cost of one mile length of wire =				Rs.	as.	ps.
				43	6	0
				13		
"	13	"	"	=	563	14-0
"	4 furlong	"	"	=	21	11-0
"	1	"	"	=	5	6-9
"	110 yards	"	"	=	2	11-4½
"	55	"	"	=	1	5-8¼
"	5	"	"	=	0	1-11¼
Cost of 13 miles, 5 furlongs, 170 yards of wire =				Rs.		
				595	2	9½

4 fur = ½ of a mile
 1 fur = ¼ of 4 fur
 110 yds = ½ of 1 fur
 55 " = ½ of 110 yds.
 5 " = ⅓ of 55 "

Q. 6. Cost of 9 eggs = $\frac{15}{4}$

„ 12 „ = $\frac{15}{4 \times 9} \times 12 = 5 \text{ as.} = \text{Re. } \frac{5}{16}$.

Sale of 1 doz. = $\frac{6}{16}$

∴ Gain = $\frac{6}{16} - \frac{5}{16} = \frac{1}{16}$

Gain on $\frac{5}{16}$ = $\frac{1}{16}$

„ 1 = $\frac{1}{16} \times \frac{16}{5}$

„ 100 = $\frac{1}{16} \times \frac{16}{5} \times 100 = 20\% \text{ Ans.}$

Q. 7. A and B together get = Rs. 7,400

B and C „ „ = Rs. 9,500

C and A „ „ = Rs. 8,500

∴ Adding $2(A+B+C)$ get = Rs. 25,400

∴ $A+B+C$ get = $\frac{25400}{2} = 12700$

C's share = $12700 - 7400 = \text{Rs. } 5300$
 B's share = $12700 - 8500 = \text{Rs. } 4200$
 A's „ = $12700 - 9500 = \text{Rs. } 3200$ } *Ans.*

Q. 8. $(1+x)^n = 1 + nx + \frac{n(n-1)}{2 \cdot 1} x^2 + \frac{n(n-1)(n-2)}{3 \cdot 2 \cdot 1} x^3 + \dots$

∴ $(1+0.03)^{10} = 1 + 10 \times 0.03 + \frac{10 \cdot 9}{2 \cdot 1} \times (0.03)^2 + \frac{10 \cdot 9 \cdot 8}{3 \cdot 2 \cdot 1}$

$(0.03)^3 + \frac{10 \cdot 9 \cdot 8 \cdot 7}{4 \cdot 3 \cdot 2 \cdot 1} (0.03)^4 + \dots$

$= 1 + 0.3 + 0.0405 + 0.00324 + 0.00017$

$= 1.34391 = 1.344 \text{ Ans.}$

1940

ANSWERS

Q. 1. (a) $\frac{2600509050}{2214} = 1174575.$

(1) cancel by 6, then by 9 and then by 41

(b) Suppose the share = 1

The share of A $= \frac{2}{9}$

The share of B $= \frac{3}{8}$

„ „ A and B $= \frac{2}{9} + \frac{3}{8}$

$= \frac{37}{72}$

\therefore The share of C $= 1 - \frac{37}{72} = \frac{35}{72}$

But share of C $= £400$

$\therefore \frac{8}{45}$ of the price of the ship = £400

1 „ 4 $= \frac{400 \times 45}{8} = £ 2250.$

A's share $= \frac{2250 \times 2}{9} = £500$ Ans.

Q. 2. (a) $£(100-0-0)-(4-14-7) \div 37$

$= £95. 5s. 5d. \div 37$

$= £2. 11s. 4d.$ Ans.

(b) $\frac{9}{8} \times \frac{5}{12}$ of 60

$= \frac{9}{8} \times \frac{5}{12} \times 60 = \frac{225}{8}$

$\frac{3}{4}$ of $\frac{61}{4} = \frac{183}{16}$

\therefore The required fraction $= \frac{183}{16} \times \frac{8}{225}$

$= \frac{61}{150}$ Ans.

Q. 3. Children = 4

3 women = $3 \times 2 = 6$ children

2 men = $6 \times 2 = 12$ children

Total of children = $4 + 6 + 12 + 22$

i.e. 4 children + 3 women + 2 men = 22 children

\therefore The share of 4 children = $\frac{15917}{6} \times \frac{4}{22} = \text{Rs. } 482-5-4.$

“ “ 3 “ = $\frac{15917}{6} \times \frac{6}{22} = \text{Rs. } 723-8-0$

“ “ 2 “ = $\frac{15917}{6} \times \frac{12}{22} = \text{Rs. } 1447-0-0$

Q. 4. £ s. d.

Cost of 1 cwt. 15— 9— 2
13

“ 13 “ 200—19— 2
2

“ 26 “ 401—18— 4

“ 2 qrs. 7—14— 7 2 qrs. = $\frac{1}{2}$ qrs.

“ 1 “ 3—17— $3\frac{1}{2}$ 1 “ = $\frac{1}{2}$ of 2 qr.

“ 14 lbs. 1—18— $7\frac{3}{4}$ 14 lbs. = $\frac{1}{2}$ of 1 qr.

“ 2 “ 0— 5— $6\frac{1}{4}$ 2 “ = $\frac{1}{7}$ of 14 lbs.

“ 1 “ 0— 2— $9\frac{1}{8}$ 1 lb. = $\frac{1}{2}$ of 2

Cost of 26 cwt. 415—17— $1\frac{5}{8}$ Ans.

3 qrs. 17 lbs.

Q. 5. Price of 8 yds. + $2\frac{2}{3}$ yds. = $2 + \frac{2}{3}$

= 4 Rs.

\therefore Price of one yard = $\frac{4 \times 3}{32}$

= Rs. $\frac{3}{8}$

= or 6 As. Ans.

(b) Had he worked for 120 days

$$\text{he would have got} = 120 \times \frac{15}{32} = \text{Rs. } \frac{225}{4}$$

$$\text{Actual receipt} = \frac{175}{8}$$

$$\text{Difference in both} = \frac{225}{4} - \frac{175}{8} = \frac{275}{8}$$

$$\text{For one day's play he loses} = 7\frac{1}{2} + 3\frac{1}{2} \text{ Ans.}$$

$$= \text{Rs. } \frac{11}{6}$$

$$\text{Rs. } \frac{11}{16} \text{ is lost in} = 1 \text{ day}$$

$$\therefore \frac{275}{8} \text{ " " } = \frac{16}{11} \times \frac{275}{8} = 50 \text{ days Ans.}$$

Q. 6. $\frac{1}{4}$ of work in 12 days is done by = 16 men,

$$\frac{1}{4} \text{ " } 1 \text{ " " } = 16 \times 12 \text{ men}$$

$$1 \text{ " } 1 \text{ " " } = 16 \times 12 \times 4 \text{ men}$$

$$\frac{3}{4} \text{ " } 1 \text{ " " } = \frac{16 \times 12 \times 4 \times 3}{4}$$

$$\text{" " } 18 \text{ " " } = \frac{16 \times 12 \times 4 \times 3}{4 \times 18}$$

$$= 32 \text{ men}$$

But 16 men are already working

$$\therefore \text{The number of men to be employed} = 32 - 16$$

$$= 16$$

But 2 men = 5 children

$$\therefore 16 \text{ " } = \frac{5}{2} \times 16 = 40$$

40 children Ans.

Q. 7. Suppose the principal = Rs. 100.

$$\text{Time} = 5\frac{1}{2} \text{ years.}$$

$$\text{Rate} = 4\%$$

$$\text{Interest} = \frac{100}{100} \times \frac{11}{2} \times 4 = 22$$

$$\text{Amount} = 100 + 22 = 122.$$

$$\text{It amount is 112, Principal} = 100$$

$$,, \quad 1 \quad ,, \quad = \frac{100}{122}$$

$$,, \quad 2440 \quad ,, \quad = \frac{100}{122} \times 2240 \\ = 2000.$$

Interest on 2000 in 8 years

$$\text{at } 6\frac{1}{2}\% = \frac{2000 \times 8}{100} \times \frac{13}{2} \\ = 1040$$

$$\therefore \text{Amount} = 2000 + 1040 = \text{Rs. } 3040. \text{ Ans.}$$

$$\text{Q. 8. Principal} = \text{£}300$$

$$\text{Time} = 3 \text{ years.}$$

$$\text{Rate} = 5\%$$

$$\text{C. I.} = (300 \times \frac{105}{100} \times \frac{105}{100} \times \frac{105}{100} - 300)$$

$$= 300 \left(\frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} - 1 \right)$$

$$= 300 \frac{1261}{8000} = \frac{3783}{80}$$

$$= \text{£}47. 5s. 9d. \text{ Ans.}$$

1941

ANSWERS

Q. 1. Odd numbers are given by the formula $2x-1$

\therefore Sum of all odd numbers upto 40.

$$= 2(1+2+3+\dots+19)+20$$

$$= 2 + \frac{20+19}{2} + 20 = 400$$

Odd multiples of three = $3(2x+1)$

\therefore Odd multiples upto 40.

$$= 3 \left\{ \frac{2 \times 7 \times 6}{2} + 7 \right\} = 3 \times 49 = 147.$$

\therefore The sum required = $400 - 147 = 253$

\therefore Sum - 2 = $253 - 2 = 251$.

This integer has no factor so it is Prime one.

Q. 2. Factorise the given numbers and multiply together all the factors that occur in the numbers once only; and of those which occur many times, take those which occur highest number of times.

$$154 = 2 \times 7 \times 11$$

$$252 = 2 \times 2 \times 3 \times 3 \times 7$$

$$476 = 2 \times 2 \times 7 \times 17$$

\therefore H.C.F. = $2 \times 7 = 14$. *Ans.*

L. C. M. = $2 \times 2 \times 3 \times 3 \times 7 \times 11 \times 17 = 47124$. *Ans.*

$$\text{Q. 3. } \frac{49}{4} - \frac{9}{2} \div \frac{25}{11} - \frac{7}{3} \left[1 - \frac{\frac{11}{45} - \frac{13}{4}}{2} \right]$$

$$= \frac{49}{4} - \frac{9}{2} \times \frac{11}{25} - \frac{7}{3} \left[1 - \frac{\frac{11}{90} - \frac{13}{4}}{\frac{1}{2}} \right]$$

$$= \frac{49}{4} - \frac{99}{50} - \frac{7}{3} \left(1 - 11 \times \frac{4}{77} \right)$$

$$= \frac{49}{4} - \frac{99}{50} - \frac{7}{3} \times \frac{3}{7}$$

$$\begin{aligned} &= \frac{1225 - 198 - 100}{100} \\ &= \frac{927}{100} \end{aligned}$$

$$= \frac{927}{100} \times \frac{1000}{103} = 90 \text{ Ans.}$$

Q. 4. Suppose the integer is x .

$$\therefore 4[4\{4(4x+1)+1\}+1]+1 = \text{Between } 1800 \text{ \& } 1900$$

$$4[4\{16x+4+1\}+1]+1 = \text{,, ,, ,,}$$

$$4[64x+16+4+1]+1 = \text{,, ,, ,,}$$

$$256x+84+1 = \text{,, ,, ,,}$$

$$256x+85 = \text{,, ,, ,,}$$

$$\text{or } 256x = \text{,, } 1715 \text{ \& } 1815$$

$$\text{But } 256 \times 7 = 1792$$

\therefore the integer = 7 Ans.

Q. 5. Before operation A contains $= \frac{3}{4}$ milk.

,, ,, B ,, $= \frac{3}{4}$ water.

After first operation A contains $= \frac{3}{4}$ milk & $\frac{1}{4}$ water.

After second operation B contains $= \frac{1}{2}$ water already in it
 $+\frac{1}{2}$ of $\frac{1}{4}$ water $+\frac{3}{8}$ of milk from A.

\therefore B contains $\frac{5}{8}$ water & $\frac{3}{8}$ milk.

\therefore The proportion of milk to water in B $= \frac{5}{8} : \frac{3}{8} = 5 : 3$.

And proportion of milk to water in A $= 3 : 1$. Ans.

Q. 6. Scale = 1 Km. = 1093.6 yards.

$$1 \text{ mile} = \frac{17600}{10936} \text{ km.}$$

$$\therefore 20 \text{ miles} = \frac{17600}{10936} \times 20 \text{ km.} = 32 \text{ km. approx.}$$

$$\therefore 50 \text{ miles} = \frac{17600}{10936} \times 50 = 80 \text{ km. Approx.}$$

$$\therefore 60 \text{ miles} = \frac{17600}{10936} \times 60 = 96 \text{ km. approx.}$$

Q. 7. 1st. car travels from A to B in = 90 minutes
2nd „ „ „ = 80 „

From the 2nd condition it is clear that 1st car covers 5 miles in 10 minutes.

$$\therefore \text{Distance between A \& B} = \frac{5}{10} \times 90 = 45 \text{ miles Ans.}$$

Q. 8. 40 gallons of water is pumped in = 1 minute

1 " " " = $\frac{1}{40}$ "

$$\begin{aligned} 1000 \quad , , \quad \text{will be} , , &= \frac{1}{40} \times 1000 \\ &= 25 \text{ mts.} \end{aligned}$$

Charges of 24 hours of pumping = $\frac{28}{16}$

$$= \frac{28}{16 \times 24}$$

$$= \frac{28}{8} \times \frac{25}{60} \times \frac{1}{24}$$

$$= \text{Re. } \frac{35}{384}$$

$$= \frac{35}{384} \times 192 = \frac{35}{2} \text{ Ps.}$$

Or charges of pumping of 1000 gallons = $\frac{35}{2}$ Ps.

Interest on Rs. 1450 at 6 % p.a. for

$$12 \text{ months} = \frac{29.3}{100} \times 6 \times 1 = 87$$

$$\text{Interest on Rs. 1450 at 6\% for one month} = \frac{87}{12}$$

$$\text{Interest on Rs. 1,450 at 6\% p.a. for 1 day} = \frac{87}{12 \times 30}$$

$$\frac{87}{12 \times 30} \times \frac{1}{8} \times \frac{25}{60} \times 192 = \frac{29}{12} \text{ Ps.}$$

$$\therefore \text{Cost of pumping of 1000 gallons} = \frac{35}{2} + \frac{29}{12}$$

$$= \frac{239}{12} \text{ Ps.}$$

$$= 1\text{a. } 8\text{ps. } \text{Ans.}$$

Q. 9. Suppose the sum deposited = Rs. 100

Interest due to the depositor

$$\text{in one year} = \text{Rs. } 2$$

Investment of banker

$$= \text{Rs. } 100 - 40 = \text{Rs. } 60$$

Int. on investment

$$= 60 \times \frac{5}{100} \times \frac{11}{12} = \text{Rs. } \frac{11}{4}$$

\therefore Profit of the banker

$$= \frac{11}{4} - 2 = \frac{3}{4}$$

\therefore Profit per cent.

$$= \frac{3}{4}\% \text{ Ans.}$$

Q. 10. Principal = Rs. 100

Time

$$= 5 \text{ years}$$

Rate

$$= 5\%$$

$$\therefore \text{Amount} = 100 \left(1 + \frac{5}{100} \right)^5$$

$$= 100 \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20}$$

$$= \frac{4684101}{32000}$$

Interest

$$= \frac{4684101}{32000} - 100 = \frac{1484101}{32000}$$

$$= \text{Rs. } 27, 10\text{a. } 1\text{p. } \text{Ans.}$$

ANSWERS

$$\text{Q. 1. } \frac{\frac{2}{3} \div \frac{16}{8} \div \frac{5}{4}}{\frac{2}{7} \div \frac{8}{7} \times \frac{5}{4}} = \frac{3 \cdot 5 \times 0 \cdot 24}{2 \cdot 1}$$

$$= \frac{\frac{2}{3} \times \frac{3}{16} \times \frac{4}{5}}{\frac{2}{7} \times \frac{7}{8} \times \frac{4}{5}} = \frac{35}{10} \times \frac{24}{100}$$

$$= \frac{1}{10} - \frac{21}{25}$$

$$= \frac{1}{10} \times \frac{5}{1} - \frac{21}{25} \times \frac{10}{21}$$

$$= \frac{1}{2} - \frac{2}{5} = \frac{1}{10} \quad \text{Ans.}$$

$$\text{Q. 2. } 504 = 3 \times 3 \times 7 \times 2 \times 2 \times 2$$

$$2394 = 3 \times 3 \times 2 \times 7 \times 19$$

$$2835 = 3 \times 3 \times 3 \times 3 \times 5 \times 7$$

$$\therefore \text{H.C.F.} = 3 \times 3 \times 7 = 63 \quad \text{Ans.}$$

$$\text{Q. 3. Price of 20 tons of coal at the pit} = £23 \cdot 8 \cdot 4.$$

Freight charges per ton per mile

$$= \frac{3}{8 \times 12 \times 20}$$

„ „ for 20 „ „

$$= \frac{3 \times 20}{8 \times 12 \times 20}$$

„ „ „ 20 for 40 „

$$= \frac{3 \times 20 \times 40}{8 \times 12 \times 20}$$

$$= £ \frac{5}{4}$$

$$\therefore \text{Total cost of 20 tons of coal} = £23 \cdot 8 \cdot 4 + 1 \cdot 5$$

$$= £24 \cdot 13 \cdot 4$$

$$\text{Profit made} = £5 \cdot 16 \cdot 8$$

$$\therefore \text{Selling Price of 20 tons of coal} = £24 - 13 \cdot 4 + £5 \cdot 16 \cdot 8$$

$$= £30 \cdot 10 \cdot 10$$

$$= \frac{733}{24}$$

$$\therefore \text{Retail Price per ton} = \frac{733}{24} \div 20$$

$$= \frac{733}{24 \times 20} = \frac{733}{480}$$

$$= £1 \cdot 10 \text{ s. } 6 \frac{1}{2} \text{ d. } \text{Ans.}$$

Q. 4. Number of men employed = 625.

Length of embankment = 4470 yds.

Work done in 2 weeks = 750 yds.

Mork to be done in 5 weeks = 3720 yds.

750 yards is finished in 2 weeks by = 635 men.

$$1 \text{ " " " } = \frac{625}{750}$$

$$1 \text{ " " 1 } = \frac{625}{750} \times 2$$

$$3720 \text{ will be " 1 } = \frac{625 \times 2}{750} \times 3720$$

$$\text{" " " 5 } = \frac{625 \times 2 \times 3720}{750 \times 5}$$

$$= 1240 \text{ men.}$$

$$\therefore \text{Number of men to be employed more} = 1240 - 625 = 615 \text{ men. } \text{Ans.}$$

Q. 5. Cost of matting = Rs. 300.

Cost per sq. ft. = Re. $\frac{1}{4}$.

\therefore Area of the hall $= 300 \times 4 = 1200$ sq. ft.

Ratio of length and Breadth $= 3 : 1$

$$\text{Breadth} = \frac{\sqrt{1200}}{\sqrt{3}} = \sqrt{400} = 20 \text{ ft.}$$

\therefore Length $= 20 \times 3 = 60$ ft.

Cost of colour-washing the walls $= \text{Rs. } \frac{250}{3}$

Cost per sq. yd. $= \text{Re. } \frac{3}{16}$

Area to four walls $= \frac{250}{3} \times \frac{16}{3} \times 9 = 4000$ sq. ft.

$\therefore 2(60 + 20) \times h = 4000$ sq. ft.

\therefore Height $= \frac{4000}{160} = 25$ feet. *Ans.*

Q. 6. Principal $= \text{Rs. } 100$

Rate $= 3\%$

Time $= 4$ years.

$$\begin{aligned} \text{Amount} &= 100 \left(1 + \frac{3}{100} \right)^4 \\ &= 100 \times \frac{103}{100} \times \frac{103}{100} \times \frac{103}{100} \times \frac{103}{100} \\ &= \frac{112550881}{1000000} \end{aligned}$$

$= \text{Rs. } 112, 98. \text{ Ans.}$

Q. 7. Investment of A $= \text{Rs. } 750$

„ B $= \text{Rs. } 1000$

„ C $= \text{Rs. } 1250$

Total investment $= 750 + 1000 + 1250 = \text{Rs. } 3000$

Profit on 3000 $= 150$

„ „ 1 $= \frac{150}{3000}$

$$,, \quad ,, \text{ A's investment} = \frac{150}{3000} \times 750 = \frac{75}{2} \text{ Rs. } 37-8-0$$

$$,, \quad ,, \text{ B's } \quad ,, = \frac{150 \times 1000}{3000} = \text{Rs. } 50$$

$$,, \quad ,, \text{ C's } \quad ,, = \frac{150 \times 1250}{3000} \\ = \frac{122}{2} = \text{Rs. } 62, 8\text{as.}$$

$$\begin{array}{l} \text{A's share} = \text{Rs. } 37, 8\text{as.} \\ \text{B's } ,, = \text{Rs. } 50 \\ \text{C's } ,, = \text{Rs. } 62, 8\text{as.} \end{array} \quad \left. \vphantom{\begin{array}{l} \text{A's share} \\ \text{B's } \\ \text{C's } \end{array}} \right\} \text{Ans.}$$

Q. 8. In $\frac{17}{4}$ minutes A runs = 1 mile

$$,, \quad 1 \quad ,, \quad ,, = \frac{4}{17} \times 1$$

$$,, \quad 60 \quad ,, \text{ A will run} = \frac{4}{17} \times 1 \times 60$$

$$= \frac{240}{17} = 14\frac{2}{17} \text{ miles.}$$

$$\text{B's time to run a mile} = 4\frac{1}{2} \text{ mnts} + \frac{1}{4} \text{ mnt.}$$

$$= 4\frac{1}{2} \text{ mnts.}$$

$$\text{In } \frac{9}{2} \text{ mnts. B runs} = 1 \text{ mile}$$

$$,, \quad 1 \quad ,, = \frac{2}{9} \times 1$$

$$,, \quad 60 \quad ,, \text{ will run} = \frac{2}{9} \times 1 \times 60$$

$$= \frac{120}{9} = 13\frac{1}{3} \text{ miles.}$$

$$\therefore \text{ Speed of A and B} = 14\frac{2}{17} \text{ and } 13\frac{1}{3} \text{ miles}$$

respectively. *Ans.*

Q. 9. Total charge = Rs. 108

Railway fare = $\frac{3}{4}$ of 108

$$= \frac{3}{4} \times 108 = \text{Rs. } 81$$

This is the charge for 2220 miles.

$$\therefore \text{Charge per mile} = \frac{81 \times 19 \times 12}{2220} = \frac{1295}{185} = 7\frac{1}{185} \text{ p.}$$

$$\begin{aligned} \text{Usual charge for 2220 miles at 1 anna per mile} &= \frac{2220 \times 1}{16} \\ &= \frac{2220}{16} \\ &= \text{Rs. 138-12} \end{aligned}$$

Actual charge = Rs. 81.

Reduction = Rs. 138, 12as. - 81 = Rs. 57, 12as. *Ans.*

1950

Arithmetic

Time : 2 hours

Marks : 100.

N. B. 20 marks are reserved for neatness, legibility and good handwriting).

Q. 1. (a) Simplify :

$$\frac{2\frac{3}{4}}{5} \text{ of } \frac{3}{4} \left(\frac{7}{9} \text{ plus } \frac{1}{12} \right) \div \frac{5\frac{7}{8}}{7\frac{1}{4}} \text{ of } \frac{29}{47} \quad 10$$

(b) Reduce $\frac{2}{3}$ of Rs. 4, 7as. 3p. to the fraction of Rs. 7, 14as. 8p. 6

Q. 2. (a) A gardner was handed a number of shrubs to plant in rows. He tried 10 in each row, then 12 in each and afterward 15 in each but had always 9 plant left. On trying 13 in each row he had none left. What is the smallest which could have been given to him ? 8

(b) What is the least number of four digits which can be added to 2537 in order that the sum may be exactly divisible by 2, 4, 6, 8 and 10

3. (a) A train starts full of passengers. At the first station it drops $\frac{1}{3}$ of these and takes 96 more. At the next station it drops $\frac{1}{2}$ of the new total and takes 12 more. On reaching the nexr station be there are found to 248 passengers left. With how many passengers did the train start ? 8

(b) A woman had a number of apples. She sells one more than half to A, one more than half the remainder to B, one more than half the new remainder to C, and one more than half of what she has now left to D. Her stock is now exhausted. How many had she originally? 8

4. (a) A man's net income after paying income tax at the rate of 8 pies in the rupee is Rs. 950, 10as. 8p. What will be his net income when the tax is reduced by 2 pies in the rupee. 8

(b) A garrison of 4,500 men is provisioned for 15 weeks at the rate of 13 ozs. per diem per man. How many men must leave so that the same provisions may last 27 weeks at 10 ozs. per diem? 8

5. (a) The difference between simple and compound interest on a certain sum of money for 3 years at 5 p. c. is Rs. 183. Find the sum. 8

(b) If Rs. 450 amount to Rs. 504 in 3 years at simple interest, what will Rs. 650 amount in 2 years and 6 months the rate being the same in both cases?

ANSWERS

1950

Arithmetic

$$1. (a) \frac{2\frac{3}{4}}{5\frac{1}{6}} \text{ of } \frac{3}{4} \left(\frac{7}{9} + \frac{1}{12} \right) \div \frac{5\frac{7}{8}}{7\frac{1}{4}} \text{ of } \frac{29}{47}$$

$$= \frac{11}{4} \div \frac{31}{6} \text{ of } \frac{3}{4} \left(\frac{7}{9} + \frac{1}{12} \right) \div \frac{47}{29} \text{ of } \frac{29}{47}$$

$$= \frac{11}{4} \times \frac{6}{31} \text{ of } \frac{3}{4} \times \frac{31}{36} \div \frac{47}{8} \times \frac{4}{29} \text{ of } \frac{29}{47}$$

$$\begin{aligned}
 &= \frac{33}{62} \times \frac{31}{49} \div \frac{47}{58} \times \frac{29}{47} \\
 &= \frac{33}{96} \times \frac{2}{1} = \frac{11}{16} \quad \text{Ans.}
 \end{aligned}$$

$$(b) \frac{2}{3} \text{ of Rs. 4. 7as. 3p.} = \frac{285}{64} \times \frac{2}{3} = \frac{95}{32}$$

$$\begin{aligned}
 \text{Reduce } \frac{95}{32} \text{ to the fraction of Rs. } 7/14/8 &= \frac{380}{48} \times \frac{32}{95} = \frac{8}{3} \\
 &= 2\frac{2}{3} \quad \text{Ans.}
 \end{aligned}$$

$$(b) \text{ Take the L. C. M. of } 2, 4, 6, 8, 10 = 120.$$

Number of 3 digits which we should add to 2537 to make it

divisible by every figure

$$= \frac{2537}{120} = 21\frac{17}{20}$$

$$= 120 - 17 = 103.$$

No. of 4 digits „ „

$$= 120 \times 10 = 1200.$$

„ „ „ „ „

$$= 1200 + 103$$

$$= 1303. \quad \text{Ans.}$$

$$3. (a) \text{ Suppose the Passengers are } = x.$$

$$\text{Drops at the first station} = x - \frac{1}{3}$$

$$\text{Remaining passengers} = x - \frac{1}{3} = \frac{2x}{3}$$

No. of Passengers taken at the first station

$$= 96$$

Total passengers

$$= \frac{2x}{3} + 96$$

Passengers dropped at the

next station

$$= \frac{1}{2} \left(\frac{2x}{3} + 96 \right)$$

$$= \frac{x}{3} + 48$$

$$\begin{aligned}\text{Remaining Passengers} &= \left(\frac{2x}{3} + 96\right) - \left(\frac{x}{3} + 48\right) \\ &= \frac{x}{3} + 48\end{aligned}$$

$$\begin{aligned}\text{Passengers taken at the next station} &= 12\end{aligned}$$

$$\text{Total} = \frac{x}{3} + 48 + 12$$

$$\begin{aligned}\text{Actual number of Passengers left} &= 248\end{aligned}$$

$$\therefore \frac{x}{3} + 48 + 12 = 248$$

$$\begin{aligned}\frac{x}{3} &= 248 - (48 + 12) \\ &= 188\end{aligned}$$

$$x = 188 \times 3 = 564 \quad \text{Ans.}$$

Q. 4. (a) Suppose the sum is = Rs. 100.

Simple interest for 3 Years at Rs. 5%

$$= \frac{100 \times 5 \times 3}{100} = 15.$$

Compound interest for 3 years @ Rs. 5%

$$= 100 \left(1 + \frac{5}{100}\right)^3 - 100$$

$$= 100 \times \frac{105}{100} \times \frac{105}{100} \times \frac{105}{100} - (100)$$

$$= \frac{46305}{400} - 100 = \frac{6305}{400}$$

$$\text{Difference} = \frac{6305}{400} - \frac{15}{1} = \frac{305}{400}$$

If difference is $\frac{305}{400}$, the sum = 100

$$\begin{aligned}\text{"} & \text{"} & 1 & \text{"} & = \frac{100 \times 400}{305}\end{aligned}$$

$$\begin{aligned}\text{If difference is 183 the sum} &= \frac{100 \times 400 \times 183}{305} \\ &= 24000 \quad \text{Ans.}\end{aligned}$$

Q. 5. (a) Suppose the gross income is = 192 ps.

$$\begin{aligned}\text{Net income after paying} & \\ \text{tax at 8 ps. per rupee} &= 192 - 8 = 184\end{aligned}$$

If net income is 184 ps. the gross income is = 192 ps.

$$\begin{aligned}\text{" " 1 " } &= \frac{192}{184}\end{aligned}$$

$$\begin{aligned}\text{" " } \frac{2852}{3} \text{ " } &= \frac{192}{184} \times \frac{2852}{3} \\ &= \text{Rs. } 992.\end{aligned}$$

If gross income is Re. 1, tax = 2 ps.

$$\begin{aligned}\text{" " " 992 " } &= \frac{2}{192} \times 992 = \frac{992}{96} \\ &= \text{Rs. } 10 \cdot 5 \cdot 4\end{aligned}$$

$$\begin{aligned}\therefore \text{Net income} &= \text{Rs. } 990 - \text{Rs. } 10 \cdot 5 \cdot 4 \\ &= \text{Rs. } 979 - 10 - 8 \quad \text{Ans.}\end{aligned}$$

(b) Provision for 15 weeks @ 13 ozs.
per diem per man for = 4500 men.

Provision for 1 weeks @ 13 oz.
per diem per man for = 4500×15

Provision for 1 weeks @ 13 oz.
per diem per man for = $4500 \times 15 \times 13$

Provision for 27 weeks @ 13 oz.
per diem per man for = $\frac{4500 \times 15 \times 13}{27}$

Provision for 27 weeks @ 10 oz.
per diem per man for = $\frac{4500 \times 15 \times 13}{27 \times 10}$
= 3250.

The number of men which should quit
= $4500 - 3250$
= 1250 Ans.

IV. (a) Principal amount = Rs. 450.

Principal amount after
adding interest = 504

\therefore interest = $504 - 450 = \text{Rs. } 54$

Time = 3 years

\therefore Rate of interest = $\frac{54 \times 100}{450 \times 3} = 4$

Then again principal amount = 650

Time = $2\frac{1}{2}$ years.

Rate = 4 p. c.

Interest = $\frac{650}{100} \times \frac{5}{2} \times 4$
= 65.

Rs. 650 will amount to = Rs. 650 + 65
= Rs. 715 Ans.

TEST PAPERS

English and General Knowledge.

1. Write the following telegram using the fewest words possible without sacrificing clearness to brevity :—

To a member of your family stating that the train upon which you were travelling has been wrecked, but that you are quite safe and will arrive by a relief train about 3 p.m.

2. Write a composition of about 250 words on any one of following :—

(a) A Railway Accident ; (b) The Life of a Postman ; (c) Life in a Refugee Camp ; (d) U.N. O. (e) The Influence of the Cinemas ; (f) An Indian Peasant.

3. What do the following abbreviations stand for ;

P.M.G. ; U.N.O. ; I.M.F. ; V.P.P. ; D.L.O. ; I.S.T. ; P.T.O. ; A.P.I. ; U.S.S.R. ; C.O.D. ; and C.I.D.

4. Write a letter to the Post Master General, complaining about the postman of your locality in connection with the random delivery of your dak.

5. Recast the following into readable sentences :

(a) came the sea fruit from this across.

(b) Ten city here miles is the from

(c) supper I after will until stay.

(d) saw about ask I what shall he him.

(e) ground from man to fell the room to the.

6. Insert the proper prepositions in each blank space in the following sentences :—

(a) They will acquit him.....stealing.

(b) The machine was adapted.....this purpose.

(c) This date corresponds.....the previous ones.

(d) I will confide the purse.....you.

(e) I am in great need.....money.

7. Construct sentences to show the difference in meaning between the following pairs of words :—

(a) Desirous, desirable ; (b) Possible, feasible ; (c) Childish, childlike ; (d) Principal, Principle ; (e) Quantity, number.

8. Give one word for the following :—

(a) A disease which generally ends in death.

(b) Of word which is no longer in use.

(c) A speech made for the first time.

(d) Handwriting which cannot be read.

(e) Voice which cannot be heard.

9. Give the names of (a) Minister for Communication to the Government of India ; (b) The First Indian Governor-General of India ; (c) Secretary-General of the U.N.O. ; (d) Indian Ambassador to Russia ; (e) President of the Indian Union ; (f) Prime Minister of the U.S.S.R. ; and (g) President of the U.S.A.

10. Name six famous men who never lived.

11. Where are the following mountains located : (a) The Alps ; (b) Mount Everest ; (c) Mount Mansfield ; (d) The Andes ; (e) Mount Blanc ; (f) Mount Robson.

12. Which of these buildings—Cenotaph, Taj Mahal, Versailles, Moti Masjid, Westminster Abbey, is :— (a) A memorial to the glorious dead, (b) One of the biggest churches in England ; (c) A place of worship for the followers of Islam, (d) A place built by Louis XIV of France, (e) A memorial to a beautiful queen.

13. What is the name for (a) the degree of heat possessed by body ; (b) A curtain used in a door way, (c) the space from which air has been exhausted ?

14. Who are the authors of the following books : (1) Ramayana ; (2) Mahabharata ; (3) Anand Math ; (4) Inside Europe ; (5) Shakuntala ; (6) Bang-i-dara ; (7) Gitanjali ; (8) The Golden Bough ; (9) Good Earth ; (10) Meghadutta.

15. Why does the British year begin on 6th April.
16. By what agencies are (a) Malaria ; (b) Plague ; (c) Typhoid Fever ; (d) Cholera ; (e) Sleeping Sickness, conveyed to human beings.
17. The summary of socialism has been said to be 'From each according to his——' ; 'to each according to his——' ; and that of communism, 'From each according to his——' ; 'to each according to his——'. Fill in the gaps.
18. What are the original differences between a road, a lane, an avenue ; a street and a crescent ?
19. Arrange in order of rank : Colonel, Major-General ; Lieutenant ; Field Marshal, Brigadier ; Captain, General, Lieutenant-Colonel, Lieutenant-General, Major.

ANSWERS

English & General Knowledge.

1. "TRAIN I TRAVELLED WRECKED MYSELF SAFE REACHING POONA RELIEF TRAIN 3 PM".
2. Try yourself.
3. Post Master General ; United Nations Organisation ; International Monetary Fund ; Valuable Payable Parcel ; Dead Letter Office ; Indian Standard Time ; Please Turn Over ; Associated Press of India ; United States of Soviet Russia ; Central Ordnance Depot ; Criminal Investigation Department.

4. To

The Post-Master General,
G. P. O., Kashmere Gate,
Delhi.

Dear Sir,

It is with very much reluctance that I have to report against your postman at present posted in our Locality. Of late, he has become very careless in the discharge of his duty. He never

delivers the dak in time ; sometimes he is too late and sometimes he never turns up throughout the day and the dak is distributed the next day. The result is that the residents of this locality are very much inconvenienced in the receipt of their letters in time.

To top all this, he hands over the letters to the children playing outside the houses. The children, knowing not what the letters are, tear them off while playing or throw them off without caring a bit.

We have many a time asked him to give up such practices, but for the reason best known to him, he is steadily pursuing his own way of delivering the dak.

It is under these circumstances that I have no other alternative but to write to you, with a request on my behalf as well as on behalf of the residents of this locality to please take the postman to task and set him right. I hope you will do the needful in the matter at an early date and oblige.

Thanking you,

Yours faithfully,

X Y Z.

Dated 1st March, 1948.

321, Chandni Chowk,
Delhi.

5. (a) This fruit came from across the sea ; (b) The city is ten miles from here ; (c) I will stay until after supper ; (d) I shall ask him about what he saw ; (e) The man fell from the room to ground.

6. (a) of ; (b) to ; (c) to ; (d) to ; (e) of.

7. (a) We are desirous of doing business with you.
He is a desirable youngman.

(b) It is not possible for me to finish this work today.
There is no feasible plan for raising the shop.

(c) His answers to my questions were childish.
He has childlike habits.

(d) Our Principal is a painstaking man.

He is a man of principle.

(e) I have one seer of sugar.

I bought two books from the market.

8. (a) fatal ; (b) obsolete ; (c) maiden ; (d) illegible ; (e) inaudible.

9. (a) Mr. Rafi Ahmad Kidwai ; (b) Mr. C. Rajagopalachari ; (c) M. Tryge Lie ; (d) Dr. Sir S. Radhakrishnan ; (e) Dr. Rajendra Prasad ; (f) M. Stalin ; (g) President Harry S. Truman.

10. (i) Jack Frost ; (ii) Santa Claus ; (iii) John Bull ; (iv) Uncle Sam ; (v) Old Man River ; (vi) Father Time.

11. (a) Switzerland ; (b) India ; (c) Vermont ; (d) South America ; (e) France ; (f) Canada.

12. (a) Cenotaph ; (b) Westminster Abbey ; (c) Moti Masjid ; (d) Versailles ; (e) Taj Mahal.

13. (a) temperature ; (b) Portier ; (c) Vacuum.

14. (1) Valmiki ; (2) Vyas ; (3) Shankar ; (4) Gunthar ; (5) Kalidas ; (6) Iqbal ; (7) Rabindra Nath Tagore ; (8) James Frazer ; (9) Pearl Buck ; (10) Kalidas.

15. Formerly the year began on March 25th, the spring equinox. In 1752 the calendar was overhauled ; January 1st became New Year's Day, and adjustments were made to bring the months into line with the seasons. Eleven days had therefore to be omitted, but the Treasury refused to alter its year or even to give up eleven days' income from the year 1752-53. So it did not end its year until April 5th, the end by the old reckoning.

16. (a) Malaria by bites from mosquitoes ; (b) plague by flies chiefly found on rats ; (c) impure water ; (d) impure water and flies ; (e) Sleeping Sickness by bites from tse-tse flies.

17. Ability and work ; Ability and needs.

18. The words are often used loosely and almost indiscriminately. But the original differences were there. A road was a well-made track leading from one town to another ; a lane was a narrow track, often very winding ; an avenue had trees on either side ; a street was a metalled road in a town ; a crescent was curved.

19. Field Marshall, General, Lieutenant-General ; Major-General ; Brigadier ; Colonel ; Lieutenant-Colonel, Major, Captain ; Lieutenant.

Geography

1. On what rivers do the capitals of the following countries stand ? France, Germany, U.S.A., Eire. Italy, Canada, Iraq, Burma, Argentine, and Portugal,

2. What are Trade Winds and Anti-Trade Winds ? Why are they so called ?

3. What are (a) Regions of scanty rainfall and regions of heavy rainfall ; (b) Places where coal, salt, manganese, gold, iron and petroleum are found in India ; (c) places where cotton, textiles, woollen goods, silk goods and jute goods are manufactured.

4. Compare the Indo-Gangetic Plain with the Deccan Tableland with regard to surface, climate, products, means of communications and population.

5. What do you know about the coast of India ? Give a brief account of a voyage along the coast of India, describing the chief harbours with their exports.

6. Describe briefly the type of climate required for the following commodities and mention the countries where they largely grow : (1) Wheat ; (2) Rice ; (3) Tea, (4) Coffee. (5) Sugarcane, and (6) Rubber.

7. Write short notes on (a) Canal ; (b) Oasis ; (c) Poles ; (d) Port ; (e) Rainbow.

8. What will be the time at Delhi 77° E longitude when it is noon at Tokyo 139° E longitude.

9. Describe the location and importance of Cherrapunji, Darjeeling, Allahabad, Delhi, Bombay, and Madras.

10. Of Calcutta, Delhi and Peshawar, which gets the heaviest rainfall and which gets the least rainfall in the winter? Give reasons.

ANSWERS

Geography

1. France—Paris on the Seine ; Germany—Berlin on the Spree ; U.S.A.—Washington on the Potomac ; Eire—Dublin on the Liffey ; Italy—Rome on the Tiber ; Canada—Ottawa on the Ottawa ; Iraq—Baghdad on the Tigris ; Burma—Rangoon on the Irrawaddy ; Argentine—Buenos Aires on the Rio de la Plata ; Portugal—Lisbon on the Tagus.

2. Trade winds are winds which blow from the high pressure area between about 25° and 35° latitudes to low pressure area at the equator. These are called trade winds because when the ships moved only on sails these winds helped the ships to move from North-east to South-west i.e. from Europe to America. Therefore these winds came to be known as trade winds. Winds when blow in the direction opposite to the trade winds are called anti-trade winds. These anti-trade winds are also called westerlies because they appear to come from west. These westerlies blow from the high pressure area between 25° and 35° to low pressure area between 65° and 75° .

3. (a) The Punjab, the North West Frontier Province, Baluchistan and Madras ; (b) Assam, The Ganges Delta and the Himalayan slopes, the West Coastal plain, North-east Punjab.

(b) Coal—Jharia (Bihar), Raniganj (Bengal) and Dandot (Punjab) ; Salt—In Sambhar Lake (Rajputana) and Khewra (Punjab) ; Manganese—C.P., Madras Presidency, Behar and Orissa, Mysore State and Bombay Presidency ; Gold—Kolar gold field in Mysore ; Iron—Singbhum Dist. Bihar, Orissa Mysore State, Chanda District in C. P. and Salem District in

Madras ; **Petroleum**—Digboi in Assam, Southern ends of Khasi and Jaintia hills, and Khaur in the Attock District in Punjab ; **Mica**—Hazaribagh, Gaya and Monghyr Districts of Behar and Nellore District of Madras.

(c) **Cotton textiles**—Bombay, Ahmedabad, Nagpur, Sholapur, Kanpur, Madras: Bangalore and Delhi ; **Woollen goods**—Kanpur add Dhariwal ; **Silk goods**—Srinagar, Murshidabad Benares, Bangalore, Surat, and Amritsar ; **Jute goods**—Calcutta.

4. (a) **Indo-Gangetic Plain :**

(i) **Surface :** This alluvial plain has even surface and fertile and deep soil. Its height above sea-level is about 1000 ft.

(ii) **Climate :** The climate in the Ganges plain is hot and moist while in Indus plain it is extreme.

(iii) **Products :** The chief products are jute, rice, sugar cane, wheat, cotton and oil seeds.

(iv) **Means of communication :** Means of communication are easy. There is a net work of railways. Rivers are slow and useful for navigation. The Grand Trunk road runs between Calcutta and Peshawar.

(v) **Population :** The population is very dense, nearly 2/3rd of the total population of India lives in this plain.

(b) **The Deccan Tableland :**

(i) **Surface :** The Deccan Plateau has uneven and rocky surface with less fertility than the Indo-Gangetic plain. Its height is from 1000 ft. to 3000 ft.

(ii) **Climate :** The climate is hot throughout the year. However, the winters are not very cold because of its nearness to equator.

(iii) **Products :** The chief product of this plateau is cotton which flourishes well in black rich soil, tea, coffee and spices are also grown,

(iv) **Means of communication :** These are difficult because of the rocky surface. Railways are very costly to build, and hence fewer. Rivers are very fast and unfit for navigation.

(v) The population is sparse because of rocky surface and scanty rainfall.

5. (a) The coast of India is 4000 miles long but owing to its being mostly unbroken and sandy, there are not many inlets. The water near the shores are shallow and at some places the coast is surf-beaten which prevent the ship anchoring in the port and they have to anchor at distance from the port in the sea which renders the transport of goods from the ship to the harbour and *vice versa* very expensive. There are a few islands near the Indian coast. That is why India lacks of really good harbours.

(b) *Coastal voyage* : The Indian coast stretches from Baluchistan to Burma. There is no useful harbour in Baluchistan, because its surface is rocky and uninhabited. However, we start from Karachi, a well-known harbour at the delta of the Indus river in Sind. The chief exports of this harbour is wheat, cotton, oil seeds, wool, hides and skin.

A little further we reach the gulf of Cutch which is very shallow. Then comes the Kathiawar ports Okha, Bedi, Bandar, Porbandar, Veraval and Bhavanagar. These ports have recently been constructed by the deepening of the sea. These ports export cotton, oil seeds, opium.

Then we reach the Gulf of Cambay. This is also very shallow on which we find the ports of Broach and Surat. These ports have been silted up with the sands of Narbada and Tapti and so they are no longer ports. Next comes Bombay.

Bombay is a magnificent natural harbour. Its hinterland is very rich and favourable for the growth of cotton. Its chief exports are cotton, wheat, opium, rice, oilseeds, hides, and skins and manganese ores are also exported.

After Bombay our ship comes to the natural harbour of Goa which is a Portugese possession. The exports are manganese, cotton, oilseeds, groundnuts, coconuts. Next comes Mangalore, Calicut and Cochin. The first two are shallow harbours. Big ships cannot enter them and therefore these are engaged in coastal trade only. Cochin harbour has recently been deepened and big ships can enter it. The chief exports of this port are coconuts, coffee, tea, spices, rubber, coir, copera, and coconut oil.

Then we reach the harbour of Alleppey, Quilon and Trivandrum. These ports chiefly export coconuts, spices,

rubber and coconut husk. Now comes Cape Comorin, the Southern most point of India. The Gulf of Mannar and the Palk strait which separate Ceylon from India are so shallow that ships have to sail round Ceylon. The Gulf of Mannar is noted for pearl fishery. Here lies the island of Rameshwaram a place of pilgrimage for the Hindus.

After rounding the island of Ceylon we reach the east coast of India also known as the Coromandel Coast. This coast is low, sandy and surf-beaten. Ships cannot anchor here in safety land have to stay away from the coast and that is why there is no good harbour on this coast. The first port is Pondicherry. It is a French possession and its main export is groundnuts.

Next comes the harbour of Madrás. It is an artificial harbour. The sea near it is shallow and out of danger from waves, ships have to stay far away from the coast. Its exports are leather, oilseeds, cotton, hides, skins, coffee, tea, fish and spices.

Then we come to Vigagapatam. It has of late become a very important harbour. The exports are manganese, mica, cotton and tobacco. Next comes on the coast of Orissa, the port of Jagannath Puri, a place of pilgrimage for the Hindus.

Next we reach the natural harbour of Calcutta on the east of Hughly. Big ships can enter it. The exports are jute, raw and manufactured and hence it is called the Jute Port of India. Tea, opium, coal, iron, manganese, mica, oil seeds and hides are also exported.

Then comes the port of Chittagong. It is a river port near the eastern shore of the Bay of Bengal. It is situated in Bengal, but it chiefly exports the products of Assam and North East Bengal, tea, rice and teak are the chief exports.

(1) *Wheat*. It requires a cool climate at the time of sowing and a bright and sunny climate at the time of ripening. It requires a moderate rainfall and that too at intervals. Russia, U. S. A., Canada, India, Pakistan, France, Italy, Argentine, Australia, Spain, Germany, Roumania, Hungary and New Zealand are the principal wheat producing countries.

(2) *Rice* : It requires high temperature, abundance of water and alluvial and new soil. Marshy soil is favourable to

its growth. The chief rice producing countries are China, India, Japan, Indo-china, Burma, the East Indies, and Ceylon.

(3) *Tea* : Tea requires a warm sub-tropical climate and a steady rainfall. It also requires a well-drained hill slope so that water may flow away otherwise it is harmful to its roots. It is grown in China, Assam (India), Ceylon, East Indies, Japan, Natal, South India and Burma.

(4) *Coffee* : It is really the roasted and ground seeds of of a shrub which requires a hot moist climate, a rich soil and an altitude of 1500 to 2500 ft. Frost is its enemy and hence its cultivation is confined to the tropics. It is grown in Brazil, Columbia, East Indies, Central America, Venezuela, Mexico, West Indies, Arabia, South India and Ceylon.

(5) *Sugarcane* : It requires a hot-moist climate with moderate rainfall and fertile soil. The chief sugarcane producing countries are India, Brazil, delta of Mississippi, Queensland, Natal, Cuba, Jawa, Phillipines, Mauritius, Hawaii, Fiji, Formosa, Jamaica, and Trinidad.

(6) *Rubber* : Rubber is obtained from certain trees which require great heat and copious rainfall throughout the year. Hence these trees are grown chiefly in the Equatorial region. The chief rubber producing countries are Malaya Peninsula, East Indies, Ceylon, British Borneo, Indo-China, Siam, India, Burma, Brazil and Congo valley.

7. (a) *Canal* : An artificial water course, usually cut in, order to facilitate the cheap transport of bulky goods by barge when the time taken in transit is not an important factor. A canal is often cut between two important rivers, in order to improve the waterway system of the area. It is also constructed to facilitate irrigation in regions which are deficient in rainfall.

(b) *Oasis* : An area in the midst of a desert which is made fertile by the presence of water. It sometimes consists merely of a clump of palm trees, sometimes it is a fertile region several hundred square miles in area. In the smaller type the water usually consists of a small isolated spring, alternatively it may be a spot where a stream flows down from a mountain canyon to form an alluvial fan. The larger oases may support a huge agricultural population in the oases of the hot deserts, the typi-

cal tree is the date palm, the fruit of which forms the main food supply.

(c) *Poles* : The two points at the Northern and southern extremities of the earth, known as the North Pole and South Pole, which form the ends of the earth's axis and thus remain stationary while every other point on the earth's surface is rotating about that axis.

(d) *Port* : A town possessing a harbour, at which ships call to load and unload goods. One of the simplest types is the fishing port, while those which are used by the larger ocean-going vessels are often known as seaports. A river port is often situated at the highest point on the river which can be reached by vessels large enough to be used for trade.

(e) *Rainbow* : The coloured bow consisting of the colours of the spectrum, seen when sunlight falls on rain, being caused by the reflection and refraction of the light in the water drops. The red is on the outside edge of the bow, the violet on the inside, in the primary bow. Some of the light falling on to the water drops, however, is twice reflected, and a secondary or outer bow is formed, with the colours in the reverse order to those of the primary bow, and much less distinct. The primary bow has an angular radius of about 42° , the secondary bow of about 54° .

8.	Longitude of Delhi	=	77° E.
	Longitude of Tokyo	=	139° E.
	Difference	=	$132 - 77 = 62^\circ$
	Difference of time per degree	=	4 minutes
	\therefore Difference between the time of the two places	=	$62 \times 4 = 248$ mnts.
		=	4 hrs. 8 mnts.

Since Delhi lies west of Tokyo, we shall subtract 4 hrs, 8 minutes from Tokyo time. Hence the time at Delhi is 7.52 a. m.

9. *Cherrapunji* : It stands on the Khasi Hills in Assam. It is about 5000 ft. above sea level. It is the rainiest place in the world. Average rainfall is about 500" annually.

Darjeeling : It is a hill station and the summer capital of the Govt. of Bengal. It stands on the southern slopes of the Himalayas. It grows large quantities of tea. It is connected with Calcutta by rail.

Allahabad : It was the capital of U. P. and stands on the confluence of the Ganges, the Jumna. It is a place of pilgrimage for the Hindus who call it Prayag. It is an important educational and trading centre, and seat of an university. Kumbha fair is held here every eighth year.

Delhi : It stands on the Jumna and is the capital of India. It is an ancient historical town. It is a central junction of Indian railways and a well-known trading city. It has cotton mills, flour mills and biscuit factories. Industries such as ivory carving, embroidery and gold and silver filling and fine pottery are carried here. Lying between the Himalaya and the Aravallis, Delhi has been gate of the Northern Plain.

Bombay : It is the capital of Bombay Presidency and the best natural harbour of India. It is the second largest city in India from the population point. It is an important trading and industrial city. It is the centre of cotton industry in India. It contains a number of leather and metal factories. It is called "The Gate Way of India". It is a station for the sea-borne mails. It is the seat of an university and is noted for its colleges.

Madras : It is the capital of the Madras Presidency and the largest town on the East coast. It is a great educational centre. The harbour is artificial. The chief industries are cotton mills, iron factories, leather and cigarette factories.

14. Of Calcutta, Delhi and Peshawar, Peshawar receives the heaviest rainfall and Calcutta the least rainfall in winter.

The reason is that of these cities Peshawar lies north to the West and Calcutta most to the east. In winter the cyclones from the Persian Gulf and the Mediterranean Sea bring rainfall to North-west India. As these cyclones move eastwards they become dry. Hence in winter Peshawar receives the heaviest rainfall and Calcutta the least.

ARITHMETIC

1. (a) Simplify

$$\frac{(5.7634)^2 - (3.2366)^2}{2.5268} \text{ of } \frac{14}{35} \div \frac{14}{25}$$

- (b)

$$1 + \frac{1}{2 + \frac{1}{3 + \frac{1}{4}}}$$

2. How long will it take to walk round the boundary of a square field having an area of 10 acres at 4 miles per hour?

3. What least number must be added to 55290 to make it a perfect square?

4. The base of a right prism 7'-6" high is a trapezium whose parallel sides are 18" and 20" and the distance between them is 12". Find the volume. How much will it weigh when 1 cubic inch weighs 2 grams.

5. The radius of a wheel is 14 inches. How many revolutions will it make in going 25 miles.

6. A certain sum of money at simple interest amounts to Rs. 872 in 2 years and to Rs. 980 in 5 years. Find the sum lent and the rate per cent.

7. Find the true discount and present worth of rupees 480 payable after 4 years at 5 p. c.

8. How much should a person invest in $3\frac{1}{2}$ p. c. stock at 95 in order to secure an annual income of £665 after paying an income-tax of one shilling in the pound.

9. Two supply pipes can fill a cistern in 10 and 12 minutes respectively and a water pipe at the bottom can empty 5 gallons of water a minute. If it is empty at first and all the pipes are opened it fills in $7\frac{1}{2}$ minutes. How many gallons does it hold?

10. A boat moves down stream at the rate of one mile in 6 months and up stream at the rate of 6 miles an hour. What is the velocity of current?

11. Find by practice the cost of 25 bags of wheat at Rs. $11\frac{1}{8}$ per maund, each bag containing 2 mds. 18 seers 12 c.shk

12. Express in Roman notation : 55, 69, 90, 109, 1930.

(b) Express in words, 999 5765, 10562, 257626, 7,605,

132.

13. If 3 fowles are in value equal to 2 hens, 5 hens equal to 3 hens, 16 hens are equal to 5 deer, 5 deer equal to 6 goats and 27 goats equal to 4 horses. If 4 horses cost Rs. 360, find the price of one fowl.

14. A ship is valued at £ 77,300 ; the premium on insurance is £ 3 per cent, the policy duty is at 5s. per cent, and the commission is $\frac{1}{8}$ per cent. What sum must be insured to cover the ship and the expenses of insurance, also what is the amount of premium.

15. A bicycle passes through the hands of three dealers each of whom gains 25%. If the third sells it for Rs. 250, what did the first pay for it ?

16. Divide 1278 into 3 parts so that 3 times the first, 5 times the second, and 7 times the third may all be equal.

17. If 15 horses and 148 sheep can be kept for 9 days for £75-15s., what sum will keep 10 horses and 132 sheep for 8 days, supposing 5 horses eat as much as 84 sheep.

18. A man's net income after paying income-tax of 4 pies a rupee is Rs. 2350 ; what will his net income be when the tax is raised to 5 pies a rupee ?

19. The price of sugar having risen 60%, how much per cent must a house-holder reduce his consumption of sugar so as not to increase his expenditure.

20. A medical student has to secure 40 per cent. marks to pass. He gets 40 and falls by 40 marks. Find out the maximum marks.

21. The compound interest on a certain sum amounts to Rs. 328/- in 2 years at 5%. What is the simple interest ?

TEST PAPER SOLUTIONS

Arithmetic

$$\text{Q. 1. (a)} \quad \frac{(5 \cdot 7634)^2 - (3 \cdot 2366)^2}{2 \cdot 5268} \text{ of } \frac{14}{35} \div \frac{14}{25}$$

$$= \frac{(5 \cdot 7634 + 3 \cdot 2366)(5 \cdot 7634 - 3 \cdot 2366)}{2 \cdot 5268} \text{ of } \frac{14}{35} \times \frac{25}{14}$$

$$= \frac{9 \times \overset{1}{\cancel{2}} \overset{1}{\cancel{5}} \overset{1}{\cancel{2}} \overset{1}{\cancel{6}} \overset{1}{\cancel{6}}}{\overset{1}{\cancel{2}} \overset{1}{\cancel{5}} \overset{1}{\cancel{2}} \overset{1}{\cancel{6}} \overset{1}{\cancel{6}}} \text{ of } \frac{14}{35} \times \frac{25}{14}$$

$$= 9 \times \frac{\overset{2}{\cancel{14}}}{\overset{5}{\cancel{35}}} \times \frac{\overset{5}{\cancel{25}}}{\overset{7}{\cancel{14}}} = \frac{45}{7} = 6\frac{3}{7} \text{ Ans.}$$

$$(b) \quad \frac{1}{1 + \frac{1}{2 + \frac{1}{3 + \frac{1}{4}}}} = \frac{1}{1 + \frac{1}{2 + \frac{1}{\frac{13}{4}}}}$$

$$= \frac{1}{1 + \frac{1}{2 + \frac{4}{13}}} = \frac{1}{1 + \frac{13}{30}}$$

$$= \frac{1}{\frac{43}{30}} = \frac{30}{43} \text{ Ans.}$$

$$\text{Q. 2. Area} = 10 \text{ acres} = 10 \times 4800 = 48400 \text{ sq. yds.}$$

$$\text{One side} = \sqrt{48400} = 220 \text{ yds.}$$

$$\text{Perimeter} = 4 \times 220 = 880 \text{ yds.}$$

If distance $= 4 \times 1760$ yds. time taken $= 60$ mnts.

$$\frac{1}{4 \times 1760} = \frac{60}{15840}$$

$$\frac{1}{4 \times 1760} = \frac{15}{880}$$

$$= 7\frac{1}{2} \text{ minutes } \text{Ans.}$$

Q. 3. The square root of 55290

$$\begin{array}{r} 235 \\ 2 \overline{)55290} \\ \underline{4} \\ 152 \\ 43 \overline{)152} \\ \underline{129} \\ 2390 \\ 46 \overline{)2390} \\ \underline{2325} \\ 65 \end{array}$$

The square root of 55290 upto 3 units only in 235. Hence when the least number is added to it to make it a perfect square the complete square root will be 236.

The number which is a perfect square is $236 \times 236 = 55696$.
Hence the least number to be added

$$= 55696 - 55290 = 406 \text{ Ans.}$$

Q. 4. Area of trapezium $= \frac{1}{2}$ sum of parallel sides \times Distance between them.

$$= \frac{1}{2}(8+20) \times 12$$

$$= 19 \times 12 = 228$$

$$\text{Height} = 7' - 6'' = 90''$$

$$\text{Volume} = 90 \times 228 = 20520 \text{ cubic inches.}$$

$$\text{Wt. of one cubic inch} = 2 \text{ grams.}$$

$$\text{Total weight} = 2 \times 20520 = 41040 \text{ grams. } \text{Ans.}$$

Q. 5. Radius $= 14''$

$$\text{Circumference} = \frac{2 \times \frac{22}{7} \times 14}{1} = 88 \text{ inches.}$$

If distance $= \frac{88}{12 \times 3 \times 1760}$ mile,
number of revolution $= 1$

If distance is 1 mile $,, = \frac{12 \times 3 \times 1760}{88}$

$,,$ 25 $,,$ $,, = \frac{12 \times 3 \times 1760 \times 25}{88}$
 1

$= 18000$ Revolutions *Ans.*

Q. 6. Principal + Simple Interest for 5 years $= 980$

$,,$ + $,,$ $,,$ 2 $,, = 872$

By subtracting we get

Simple Interest for 3 years $= 108$

$,,$ $,,$ 1 $,, = \frac{108}{3} = 36$

$,,$ $,,$ 2 $,, = 36 \times 2 = 72$

\therefore Principal Amount $= 872 - 72 = 800$

Rate of Interest $= \frac{\text{Interest} \times 100}{\text{Principal} \times \text{Time}}$

$$= \frac{108 \times 100}{800 \times 2} = \frac{9}{2} = 4\frac{1}{2}$$

Principal amount $= 800$ }
Rate of Interest $= 4\frac{1}{2}\%$ } *Ans.*

Q. 7. 1st case

Suppose Principal $= \text{Rs. } 100$ }

Time $= 4$ years. }

Rate $= 5\%$ }

Amount $= 120$ }

If amount is Rs. 120, Present Worth $= 100$

$,,$ 1 $,,$ $,, = \frac{100}{120}$

$$\begin{aligned} & \text{480} \quad \text{,,} \quad \text{,,} = \frac{100}{120} \times 480 \\ & \quad \quad \quad = 400 \quad \text{Ans.} \end{aligned}$$

2nd case ;

If amount = 120, True Discount = 20

$$\text{,,} \quad 1 \quad \text{,,} \quad \text{,,} = \frac{20}{120}$$

$$\begin{aligned} & \text{480} \quad \text{,,} \quad \text{,,} = \frac{20}{120} \times 480 \\ & \quad \quad \quad = 80 \end{aligned}$$

Or True Discount = 480 - 400 = 80 Ans.

Q. 8. Income tax on £ 1 = $\frac{1}{20}$

$$\text{,,} \quad \text{,,} \quad \text{£} 3\frac{1}{2} = \frac{7}{2} \times \frac{1}{20} = \frac{7}{40}$$

Net income

$$= \frac{7}{2} - \frac{7}{40} = \frac{133}{40}$$

If net income is $\frac{133}{40}$, sum invested = 95

$$\text{,,} \quad \text{,,} \quad 1 \quad \text{,,} \quad \text{,,} = \frac{95 \times 40}{133}$$

$$\begin{aligned} & \text{665} \quad \text{,,} \quad \text{,,} = \frac{95 \times 40 \times 665}{133} \\ & \quad \quad \quad = \text{£} 19000 \quad \text{Ans.} \end{aligned}$$

Q. 9. Work of first pipe in one minute = $\frac{1}{10}$

$$\text{,,} \quad \text{2nd} \quad \text{,,} \quad \text{,,} \quad \text{,,} = \frac{1}{12}$$

$$\text{Work of both pipes in one minute} = \frac{1}{10} + \frac{1}{12} = \frac{11}{60}$$

$$,, \quad ,, \quad \text{all the three pipes in one minute} = \frac{2}{15}$$

Hence work of the emptying pipe in one minute

$$= \frac{11}{60} - \frac{2}{15} = \frac{1}{20}$$

$$\frac{1}{20} \text{ of cistern contains } = 5 \text{ gallons}$$

$$\text{The whole of cistern would contain} = \frac{20}{1} \times 5$$

$$= 100 \text{ gallons. Ans.}$$

Q. 10. One mile in 6 minutes = 10 miles in an hour

Suppose the man rows x miles per hour
and the stream moves y miles an hour.

$$\text{Then } x + y = 10$$

$$x - y = 6$$

$$\text{Subtracting } 2y = 4$$

$$\text{or } y = 2$$

Hence the velocity of the current = 2 miles per hour.

Q. 11.

Rs. As. Ps.

$$\text{Cost of 1 md.} = 11 \quad 8 \quad 0$$

$$,, \quad 2 \quad ,, = \quad \quad \quad 2$$

$$\quad \quad \quad 23 \quad 0 \quad 0$$

$$,, \quad 10 \text{ seers} = 2 \quad 14 \quad 0$$

$$,, \quad 5 \quad ,, = 1 \quad 7 \quad 0$$

$$,, \quad 2 \quad ,, = 0 \quad 9 \quad 2\frac{2}{5}$$

$$,, \quad 1 \quad ,, = 0 \quad 4 \quad 7\frac{1}{5}$$

$$,, \quad 8 \text{ chhks.} = 0 \quad 2 \quad 3\frac{3}{5}$$

$$,, \quad 4 \quad ,, = 0 \quad 1 \quad 14\frac{4}{5}$$

$$\text{Cost of one bag} = 28 \quad 6 \quad 3$$

$$,, \quad 5 \text{ bags} = 141 \quad 15 \quad 3$$

$$,, \quad 25 \quad ,, = \text{Rs. } 709 \quad 12 \quad 3$$

$$Ans.$$

$$10 \text{ srs.} = \frac{1}{4} \text{ of 1 md.}$$

$$5 \quad ,, = \frac{1}{2} \text{ of 10 srs.}$$

$$2 \quad ,, = \frac{1}{5} \text{ of 10 srs.}$$

$$1 \quad ,, = \frac{1}{2} \text{ of 2 srs.}$$

$$8 \text{ chhks.} = \frac{1}{2} \text{ of 1 sr.}$$

$$4 \quad ,, = \frac{1}{2} \text{ of 8 chhks.}$$

Q. 12. (a) LV, LXIX, XC, CIX, MCMXXX.

(b) Nine hundred and ninety nine.

Five thousand seven hundred and sixty five.

Ten thousand five hundred and sixty two.

Two hundred fifty seven thousand six hundred and twenty six.

Seven million six hundred and five thousand one hundred and thirty two.

Q. 13. 3 fowls = 2 hens \therefore 1 fowl = $\frac{2}{3}$ hen.
 5 hens = 3 hares \therefore 1 hen = $\frac{3}{5}$ hare.
 16 hair = 5 deer \therefore 1 hair = $\frac{5}{16}$ deer.
 5 deer = 6 goats \therefore 1 deer = $\frac{6}{5}$ goats.
 27 goats = 4 horses \therefore 1 goat = $\frac{4}{27}$ horse.
 4 horses = Rs. 360.

Hence one horse = $\frac{360}{4}$

$$\therefore \text{One goat} = \frac{4}{27} \times \frac{360}{4}$$

$$\text{One deer} = \frac{6}{5} \times \frac{4}{27} \times \frac{360}{4}$$

$$\text{One hare} = \frac{5}{16} \times \frac{6}{5} \times \frac{4}{27} \times \frac{360}{4}$$

$$\text{One hen} = \frac{3}{5} \times \frac{5}{16} \times \frac{6}{5} \times \frac{4}{27} \times \frac{360}{4}$$

$$\text{One fowl} = \frac{1}{3} \times \frac{1}{5} \times \frac{1}{16} \times \frac{3}{5} \times \frac{1}{27} \times \frac{40}{4}$$

= Rs. 2. Ans.

14. Rate of premium = £3. 0s. 0d. per cent.
 " duty = 5s. 0d. "
 " commission = 2s. 6d. "
 Total expenses = £3. 7s. 6d.
 = £3 $\frac{3}{8}$ per cent.

Hence, it will take $3\frac{3}{8}\%$ of the money recovered to pay the total expenses of insurance; that is, out of each £100, £ $3\frac{3}{8}$ will represent the proportion of expenses and £ $96\frac{5}{8}$ will represent value of the ship.

Hence £ $96\frac{5}{8}$ of ship must be insured for = £100

$$\text{" } \text{£1} \quad \text{"} \quad \text{"} \quad \text{"} \quad \text{"} \quad = \frac{100 \times 8}{773}$$

$$\therefore \text{£77300} \quad \text{"} \quad \text{"} \quad \text{"} \quad = \frac{100 \times 8 \times 77300}{773}$$

= £80000. Ans.

The amount of the premium must be paid on the amount of the policy: i. e.

$3\frac{3}{8}\%$ of £80000 = £2700, which of course, is the difference between the actual value of the ship and the amount of the policy.

Q. 15. Sale price of Third = 250
Gain = 25 %.

Suppose C.P. = 100; then S.P. = 125

If S.P. = 125; then C.P. = 100

$$\text{"} \quad \text{"} = 1; \text{ then } \text{"} = \frac{100}{125}$$

$$\text{"} \quad \text{"} = 250; \text{ then } \text{"} = \frac{100}{125} \times \frac{2}{1}$$

= Rs. 200.

C. P. of 3rd = S. P. of 2nd = Rs. 200.

Gain = 25 %

Again suppose C. P. = 100

Then S. P. = 125

If S. P. = 125, then C. P. = 100

$$\text{"} \quad \text{"} = 1, \quad \text{"} = \frac{100}{125}$$

$$\text{"} \quad \text{"} = 200, \quad \text{"} = \frac{100}{125} \times 200 = \text{Rs. 160}$$

C. P. of 2nd = S. P. of 1st = 160
Gain = 25%

Again suppose C. P. = 100

Then S. P. = 125

If S. P. = 125, then C. P. = 100

" " 1, " " = $\frac{100}{125}$

" " 160, " " = $\frac{100}{125} \times \frac{160}{1} = 128$
= Rs. 128. Ans.

Q. 16. L.C.M. \times G.C.M. = Products of two numbers.

$\therefore 693 \times 11 = 77 \times 2\text{nd number.}$

$\frac{693 \times 11}{77} = 2\text{nd number}$
= 99. Ans.

Q. 17. Suppose C. P. = 100

Reduction = 20

Reduced price = 80

If original price = 100, reduced price = 80

" " = 1, " " = $\frac{80}{100}$

" " = 400, " " = $\frac{80}{100} \times 400$
= Rs. 320

Saving = $400 - 320 = \text{Rs. } 80$

Reduced price of 10 mds. = Rs. 80

" " 1 " = $\frac{80}{10} = \text{Rs. } 8$ Ans.

If reduced price is 80, original price = 100

$$,, \quad ,, \quad 1 \quad ,, \quad ,, = \frac{100}{80}$$

$$,, \quad ,, \quad 8 \quad ,, \quad ,, = \frac{100}{80} \times 8$$

$$= \text{Rs. } 10 \text{ Ans.}$$

Q. 18. Suppose $3 \times 1\text{st} = 5 \times 2\text{nd} = 7 \times 3\text{rd} = x$.

$$\therefore 3 \times 1\text{st} = x$$

$$5 \times 2\text{nd} = x$$

$$7 \times 3\text{rd} = x$$

$$\text{or } 1\text{st} = \frac{x}{3}$$

$$2\text{nd} = \frac{x}{5}$$

$$3\text{rd} = \frac{x}{7}$$

$$\text{Then } \frac{x}{3} + \frac{x}{5} + \frac{x}{7} = 1278$$

$$= 35x + 21x + 15x = 1278 \times 105$$

$$\text{or } 71x = 1278 \times 105$$

$$x = \frac{1278 \times 105}{71} = 1890$$

$$\text{Hence } 1\text{st part} = \frac{1890 \times 1}{3} = 630$$

$$2\text{nd part} = \frac{1890 \times 1}{5} = 378$$

$$3\text{rd part} = \frac{1890 \times 1}{7} = 270$$

630, 378, 270 Ans.

Q. 19. 5 horses = 84 sheep

$$1 \quad ,, = \frac{84}{5} \quad ,,$$

$$10 \quad ,, = \frac{84}{5} \times 10 = 168 \text{ sheep}$$

$$10 \text{ horses} + 132 \text{ sheep} = 168 + 132 = 300 \text{ sheep}$$

Similarly 5 horses = 84 sheep

$$1 \text{ „ } = \frac{84}{5}$$

15 „ $= \frac{84}{5} \times 15 = 252$ sheep

	Sheep	Days	Sum
1st case	400	9	<u>303</u> 4
2nd case	300	8	?

Less sheep less sum

Less days less sum

$$\begin{array}{l} 400 : 300 \\ 9 : 8 \end{array} \left. \vphantom{\begin{array}{l} 400 : 300 \\ 9 : 8 \end{array}} \right\} \frac{303}{4} : x$$

$$x = \frac{303}{4} \times \frac{300 \times 8 \times 1}{400} \times \frac{1}{9} = \frac{101}{2}$$

$$\text{or } x = \frac{101}{2} = 50\frac{1}{2}$$

or £50, 10s. *Ans.*

Q. 20. Suppose gross income = Re. 1

$$\text{Income-tax on Re. 1} = \frac{4}{192} = \frac{1}{48}$$

$$\text{Net income} = 1 - \frac{1}{48} = \frac{47}{48}$$

If net income = $\frac{47}{48}$, gross income = Re. 1

$$,, = 1, ,, = \frac{48}{47}$$

$$,, \quad ,, \quad = 2350 \quad ,, \quad = \frac{48}{47} \times 2350$$

$$= 2400 \text{ Ans.}$$

2nd case.

$$\text{Income-tax on Re. 1} = \frac{5}{192}$$

$$\text{Net income} = 1 - \frac{5}{192} = \frac{187}{192}$$

$$\text{Net income on Re. 1} = \frac{187}{192}$$

$$\begin{aligned} \text{" " " 2400} &= \frac{187}{192} \times 2400 = \frac{4675}{2} \\ &= \text{Rs. 2337 As. 8. Ans.} \end{aligned}$$

21. Suppose original price = 100

$$\text{Increased price} = 100 + 60 = 160$$

$$\text{For Rs. 160, he gets} = 1$$

$$\text{" 1 " " } = \frac{1}{160}$$

$$\text{" 100 " " } = \frac{1}{160} \times 100 = \frac{5}{8}$$

$$\therefore \text{Instead of 1, he must consume} = \frac{5}{8}$$

$$\text{" 100 " " } = \frac{5}{8} \times 100$$

$$\text{Hence he must reduce } 100 - \frac{125}{2} = \frac{125}{2}$$

$$= \frac{75}{2}$$

$$= 37\frac{1}{2}\% \text{ Ans.}$$

Q. 21. The number of marks got = 40

$$\text{" " " by which he fails} = 40$$

$$\therefore \text{The total marks for passing} = 80$$

$$\text{If pass marks} = 40, \text{ maximum marks} = 100$$

$$\text{" " 1 " " } = \frac{100}{40}$$

$$\begin{aligned} \text{" " 80 " " } &= \frac{100}{40} \times 80 \\ &= 200 \text{ Ans.} \end{aligned}$$

Q. 22. Compound Interest = Rs. 328

Time = 2 years

Rate = 5%

Principal = ?

Suppose Principal = 100

$$C. A. = 100 \times \frac{105}{100} \times \frac{105}{100} = \frac{441}{4}$$

$$\text{Compound Interest} = \frac{441}{4} - 100 = \frac{41}{4}$$

$$\text{If } C. I. = \frac{41}{4}, \text{ Principal} = 100$$

$$,, \quad 1 \quad ,, \quad = \frac{100 \times 4}{41}$$

$$,, \quad 328 \quad ,, \quad = \frac{100 \times 4}{41} \times 328$$

$$= 3200.$$

2nd Case.

Principal = 3200

Rate = 5%

Time = 2 years

$$\text{Simple Interest} = \frac{3200 \times 5 \times 2}{100} = \text{Rs. 320 Ans.}$$

MADRAS CIRCLE

1941—(November)

ENGLISH.

SECTION I.

1. Write an essay on one of the following :—
 - (a) The place of games in education.
 - (b) Your favourite hero in history of fiction.
 - (c) The uses of electricity.
2. Re-write as directed—
 - (a) The Belgians are defeated indeed, but they are not conquered. (As a complex sentence).
 - (b) I do not know why you are learning Hindi. (As a simple sentence).
 - (c) I know Indian as well as European music. (In the passive voice).
 - (d) Everybody has heard of Shakespeare. (As a question).
 - (e) He is too proud to beg. (Using so that).

SECTION II.

3. Write sentences to bring out the differences in meaning and usage between the two words in each of the following pairs :—Crime, sin ; hear, listen : keep, put ; loose, lose ; probable, possible.

4. Give the two meanings of each of the following words :—

Drill, rank, retort, seal, stick.

5. Re-arrange the following so as to form a sentence :

the confidential pain servants their revealing any are
course dismissal duties from government in information of
official obtained under prohibited.

6. Punctuate the following, using capitals where necessary :—

govind said the teacher have you read dickens pickwick
papers no sir answered govind i havent but i have read his tale
of two cities and oliver twist.

7. Write short notes on the following :—

The Atlantic charter ; Soya beans ; the Seven Pagodas ; Quisling ; E-boats.

GEOGRAPHY.

SECTION I.

1. Draw an outline map of India, and mark name in it the following :—

The Narbada River ; Bolan Pass ; the region of least rain fall ; Gulf of Cambay ; Palghat Gap ; Malwa Plateau ; Khasi Hills ; Sundarbans ; a gold-mining area ; and Laccadive Islands.

2. In the same map, mark and name the following towns also—

Poona, Mangalore ; Chittagong ; Bezwada ; Patna ; Coimbatore ; Peshawar ; Jodhpur ; Cawnpore ; and Amritsar.

3. State the geographical importance of each of the places given in Question 2 above.

4. Name :—

- (i) The capital of French territories in India.
- (ii) An important harbour for ocean-going steamers on the east coast of India between Madras and Calcutta.
- (iii) The chief money crop of Bombay Deccan.
- (iv) The region where coffee is grown in India.
- (v) The capital of Assam.
- (vi) An important hydro-electric project in India.
- (vii) An iron manufacturing town in South India.
- (viii) A hill station in the Western Himalayas.
- (ix) A British cantonment in Mysore State.
- (x) A sea-port which is the outlet for the products of the Punjab.

SECTION II.

5. Write short notes on the following :—

The Panama Canal ; Trans-Siberian Railway ; Bosphorus ; Trans-Caucasian oil-fields ; and climate of Cape town.

6. Write what you know about each of the following places :—

Melbourne ; Hong-Kong ; Washington ; Vancouver ; Cairo ; Vladivostok ; Riode-Janerio ; Leningrad ; Durban ; and Malta.

7. State, **with reasons**, one chief export from each of the following countries :—

Denmark ; New Zealand ; Java, Argentina ; Cape Colony.

8. Names :—

- (i) An ice-free port on the Arctic coast of Russia.
- (ii) The capital of free China.
- (iii) A British territory in Africa where tin is obtained.
- (iv) The chief export of Tasmania to England.
- (v) The chief product obtained in the North Chilean desert.
- (vi) A port in the gulf coast of the United States from which cotton is exported.
- (vii) A country in Europe from which good iron ore is largely exported.
- (viii) A group of islands in South-Eastern Asia, belonging to the United States of America.
- (ix) A port in the Indian Ocean where sea-routes meet.
- (x) The region of Scotland which is densely populated.

ARITHMETIC.

SECTION I.

1. Given that 1 ounce (avoirdupois) = 28, 35 grams, find to the nearest integer the number of kilograms in one ton.

2. The area of a square field is 10 acres. How long will it take a man to walk round the edge of it at the rate of 3 miles an hour? (You are given that one square mile=640 acres).

3. A, B and C play cricket. A's runs are to B's and B's are to C's as 3 : 2. They get altogether 342 runs. How many did each get?

4. By selling a horse for Rs. 370 a man lost $7\frac{1}{2}$ per cent. What would be his a gain or loss per cent if he had sold it for Rs. 420?

SECTION II.

5. Simplify :—

$$\frac{4\frac{2}{3} \times 2\frac{1}{5} \times 3\frac{1}{6}}{19\frac{2}{7} - 5\frac{2}{5} \times 3\frac{3}{4}}$$

6. In a forest 5 per cent of the trees are blown over in a gale and after 3 per cent of the remaining are cut down there still stand 55,290 trees. How many trees were there in the forest before the gale?

7. A train was noticed to pass a station 220 yards long in 15 seconds and another station 330 yards long in 20 seconds. How long was the train and how fast was it moving?

8. On what sum of money would the compound interest for 3 years at 5 per cent exceed the simple interest by Rs. 38-2-0?

1942

ENGLISH

SECTION I.

1. Write an essay on one of the following :—

30

(a) The Reading Habit.

(b) How do bring about communal unity in India.

(c) What India can learn from China and Russia.

2. Rewrite as directed, without changing the meaning.

- (a) The men in every tent have a lantern. They have a bucket. The bucket is made of wood. It is for fetching water. They have also a bowl. This is for washing in. The men have these things for their common use. (As a single simple sentence) : 4
- (b) It was my sixteenth year that I entered College. (Using *sixteen*). 4
- (c) The tax besides being unjust, was also inexpedient. (Using *not only*). 2
- (d) Both Raman and Krishnan are F. R. S's. (Using *as well as*) 2

SECTION II.

3. Giving facts and reasons, write a petition to the P.M.G., requesting him to open a branch post office in your village. 10

4. Write sentences to bring out the differences in meaning and usage between the two words in each of the following pairs :—Book, volume ; brothers, brethren ; price, value ; see, look ; weather, climate. 10

5. Rearrange the following words so as to form a sentence :— 5

and what although bitter is people it may say true unpleasant to be.

6. Punctuate the following, using capitals where necessary :—the late sir francis young husband has written a great little essay on culture as a bond of empire have you read it no ive read only his epic of mount everest. 5

7. Write short notes on the following :— 10
The Dieppe Raid ; vitamins ; sabotage ; the Red-Cross ; the Cripps proposals.

Total

80

ARITHMETIC

SECTION I.

1. Given that 1 metre = 39.37 inches, find to the nearest integer the number of metres in a mile. 10

2. A lawn whose length is 30 yards and breadth 24 yards is surrounded by a foot-path 6 feet wide. Find the cost of paving the foot-path at 6 annas 9 pies per square yard. 10

3. Divide Rs. 100 among A, B and C so that A's share is to B's in the ratio 2:3 and B's share is to C's in the ratio 7:5.

4. A man sells two horses at Rs. 300 each; and by so doing he gains 25 per cent on one horse and loses 25 per cent on the other. How much does he gain or lose on the whole? 10

SECTION II.

5. Simplify :—

$$\frac{4\frac{1}{8} \times 1\frac{7}{11} + 1\frac{29}{36}}{5\frac{1}{9} - 7\frac{7}{8} \div 9\frac{9}{20}}$$

6. A man pays for insurance on his life 10 per cent of his gross income; and after paying income-tax on the remainder at 6 pies in the rupee, he has Rs. 1,674 left. What is his gross income? 10

7. A hot water pipe can fill a bath tub in 5 minutes and a cold water pipe can fill it in 3 minutes, while the waste pipe empties it in $7\frac{1}{2}$ minutes. If all the three pipes be open, how long will it take to fill the tub? 10

8. A sum of Rs. 820, borrowed at 5 per cent compound interest is to be repaid by two equal payments, one at the end of the first year and the other at the end of the second year. Find the value of each payment. 10

Total 80

GEOGRAPHY.

SECTION I.

1. Draw an outline map of India, mark and name in it the following :— 10

The Region of heaviest rainfall ; the Mahanadi river ; the Cardamom hills ; Gulf of Mannar ; Andaman islands ; Rann of Cutch ; Coorg ; Sikkim ; Kathiawar Peninsula ; and the Region of the highest range of temperature.

2. In the same map, mark and name the following towns also :— 10

Secunderabad ; Cochin ; Vizagapatam ; Trichinopoly ; Quetta ; Allahabad ; Ajmer ; Jamshedpur ; Srinagar ; and Ahmedabad.

3. State the geographical importance of each of the places given in Question 2 above. 10

4. Name ;— 10

- (i) The largest Portuguese territory in India.
- (ii) A sea-port which is the outlet for the products of Assam.
- (iii) The region where rubber is produced in India.
- (iv) The chief money crop of Eastern Bengal.
- (v) The capital of Orissa.
- (vi) The largest cotton manufacturing centre in South India.
- (vii) A hill-station which is the summer residence of the Bengal Government.
- (viii) The largest sugar producing province in India.
- (ix) A famous woollen centre in the Punjab.
- (x) An air-port in Rajputana on the Imperial Airways.

SECTION II.

5. Write short notes on the following :—

The Suez Canal ; Canadian-Pacific Railway ; Prime Meridian ; Gulf Stream Drift ; and Mediterranean Region. 10

6. State the Geographical importance of each of the following places :— 10

Port Darwin ; Shanghai ; Gibraltar ; Colombo ; Moscow ; Buenos Aires ; Honolulu ; Glasgow ; Khartoum ; Ottawa.

7. State, with reasons, the most important export from each of the following regions and countries :— 10

Irish Free State ; South-Eastern Brazil ; Iraq ; Egypt ; and Siam (Thailand).

8. Name :— 10

- (i) A Russian naval port in the Black Sea.
- (ii) A very large island on the East African Coast belonging to the French.
- (iii) A state in South America which has no sea-board.
- (iv) The chief cocoa-producing region in Africa.
- (v) The chief tin-producing region in Asia.
- (vi) The capital of the United States of America.
- (vii) An important product exported from Ceylon to the British Isles.
- (viii) The Eastern terminus of the Trans-Siberian Railway.
- (ix) The region in North America where paper and paper pulp are produced largely.
- (x) An Italian port which is the outlet for the products of Switzerland.

Total 80

ARTICLE II.

SECTION 1. The following are the names of the States and Territories:

The States: Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

The Territories: Alaska, Arizona, Hawaii, Idaho, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

The District of Columbia is a separate entity, and is not a State or Territory. It is the seat of the Federal Government, and is under the direct control of the United States Government. It is bounded by the Potomac River to the south, the Annapolis Canal to the east, and the Chesapeake Bay to the north.

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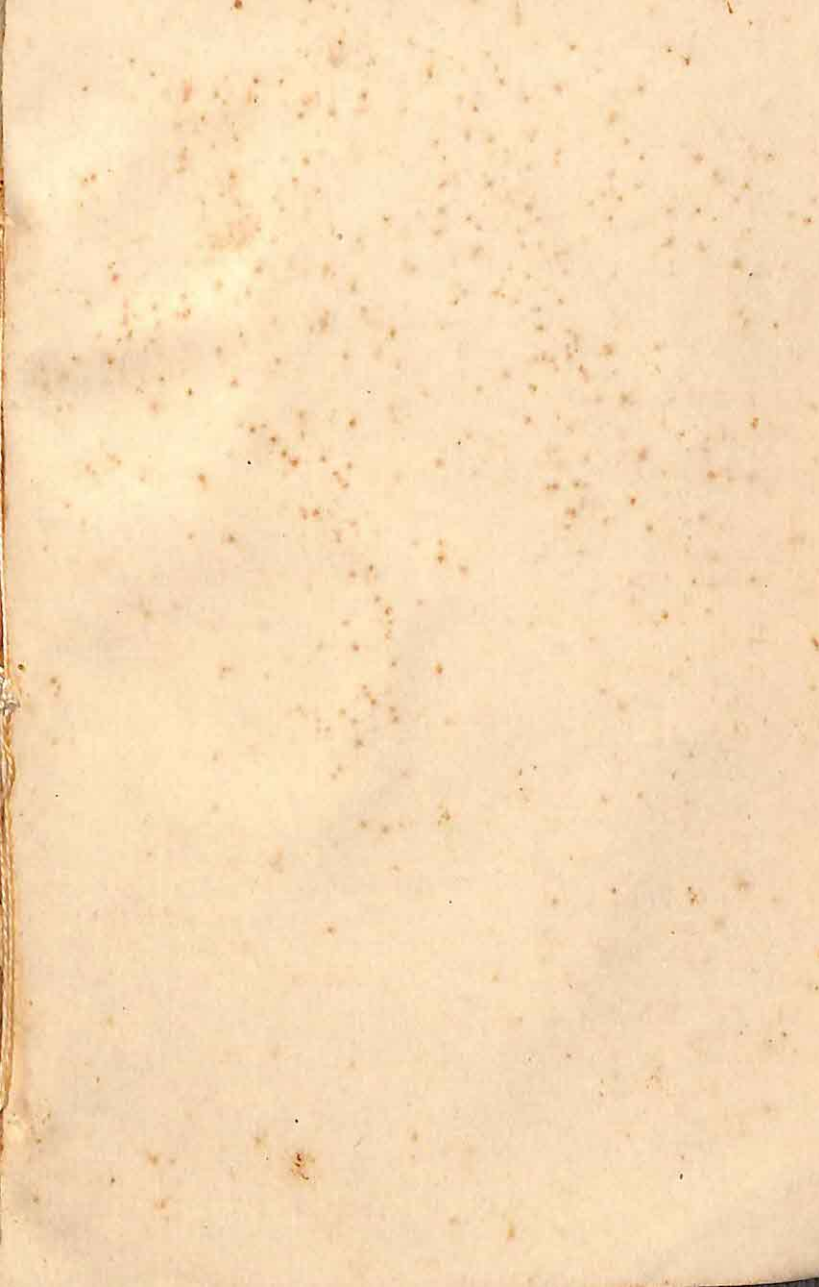
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